ORDER NO. AD8903052C0
A2

Service Manual

Cassette Deck

Dolby NR-Equipped Stereo Double Cassette Deck

RS-TR255

DOLBY B•C NR*

Color

(K)... Black Type

Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	(K)
(E)	Continental Europe.	(K)
(EB)	Great Britain.	(K)
(EG)	F.R.G. and Italy (West Germany).	(K)
(GN)	New Zealand.	(K)

SPECIFICATIONS

■ CASSETTE DECK SECTION

Deck system Stereo cassette deck
Track system 4-track, 2-channel
Heads
(tape deck 1) Play Permalloy head
(tape deck 2) Rec/play Permalloy head
Erasing Double-gap ferrite head
Motors
(tape deck 1) Capstan/reel table drive DC servo motor
(tape deck 2) Capstan/reel table drive DC servo motor
Recording system AC bias
Bias frequency 80 kHz
Erasing system AC erase
Tape speed 4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby NR) (Except P, PC Areas)
NORMAL 20 Hz~16 kHz
20 Hz~15 kHz (DIN)
CrO_2 20 Hz~16 kHz
20 Hz~15 kHz (DIN)
METAL 20 Hz~18 kHz
20 Hz~17 kHz (DIN)
Frequency response (w/o Dolby NR) (P, PC Areas)
NORMAL 20 Hz~16 kHz
CrO_2 20 Hz~16 kHz
METAL 20 Hz~18 kHz
S/N (signal level = max recording level, CrO_2 type tape)
Dolby C NR on 74 dB (CCIR)
Dolby B NR on 66 dB (CCIR)
Dolby NR off 56 dB (A weighted)
Wow and flutter (Except P, PC Areas) 0.07 % (WRMS)
±0.2 % (DIN)
Wow and flutter (P, PC Areas) 0.1 % (WRMS)
Fast forward and rewind times
Approx. 110 seconds with C-60 cassette tape
Input sensitivity and impedance
LINE 60 mV/47 kΩ
Output voltage and impedance
LINE 400 mV/800 Ω
HEADPHONES 30 mV/8 Ω
(8 Ω~600 Ω)

■ GENERAL

Power consumption 15 W
Power supply
For U.S.A and Canada AC 60 Hz, 120 V
For Great Britain and New Zealand
AC 50 Hz/60 Hz, 240 V
For others AC 50 Hz/60 Hz, 220 V
Dimensions (W × H × D) 430 × 136 × 290 mm
(16-15/16" × 5-3/8" × 11-13/32")
Weight 4.8 kg (10.6 lb.)

Note:
Specifications are subject to change without notice.
Weight and dimensions are approximate.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Technics

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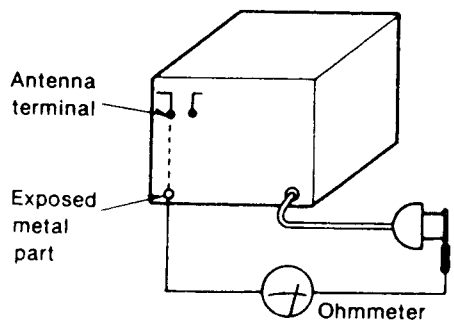
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

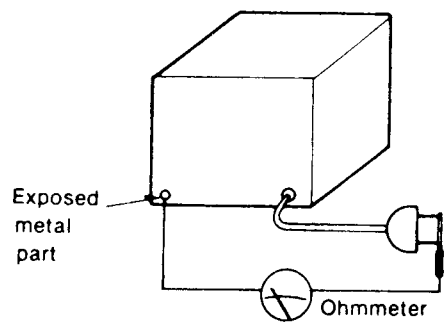
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



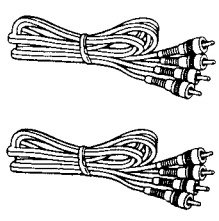
(Fig. B)

Resistance = Approx ∞

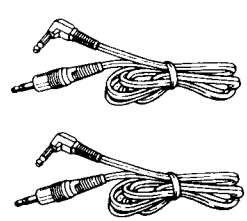
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

■ ACCESSORIES

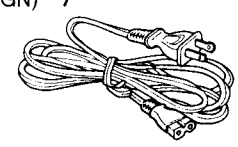
- Stereo connection cables..... 2 (RFA006)



- L-type cables..... 2 (SJP2257T) (P, PC, GN Areas)



- AC power supply cord (polarized).... 1 (Refer to page 4.)
  - SJA175-1 : (P)
  - SJA175 : (PC)
  - SFDAC05E03 : (E, EG)
  - SJA193-1 : (EB)
  - SJA173-1 : (GN)



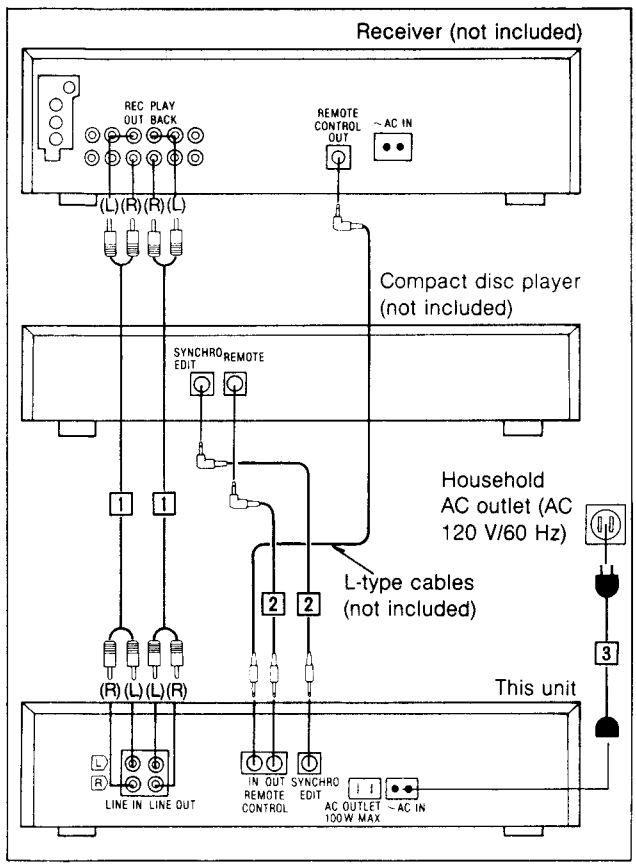
■ HOW TO CONNECTION

Make connections in the numbered sequence by using the included cables.

1 Connect the stereo connection cables.

2 Connect the L-type cables. (P, PC GN Areas)

3 Connect the AC power supply cord.



The illustration at the left shows an example of connections made when this unit is combined with a Technics hi-fi component system, and shows only the connections to be made to and from this unit in that combination.
Refer to the illustration together with the instructions provided below.

"REMOTE CONTROL IN" terminal

Make a connection from this terminal to the control terminal for a cassette deck with a Technics receiver or a Technics amplifier. (For detailed information, refer to the operating instructions of the Technics receiver or the Technics amplifer.)

"REMOTE CONTROL OUT" terminal

Make a connection from this terminal to the "REMOTE INPUT" terminal of a Technics graphic equalizer or to the "REMOTE" terminal of a Technics compact disc player.
(For detailed information, refer to the operating instructions of the Technics graphic equalizer or the Technics compact disc player.)

"SYNCHRO EDIT" terminal

Make a connection from this terminal to a terminal that has the synchro-edit function of a Technics compact-disc player.
(For detailed information, refer to the operating instructions of the Technics compact disc player.)

"AC OUTLET" (P, PC Areas)

This outlet is a unswitched outlet.
Power is always available, regradless of unit's power switch setting.
This outlet is only for use with other audio equipment.
Also, do not exceed the indicated power rating when connecting to this outlet.

Placements hints

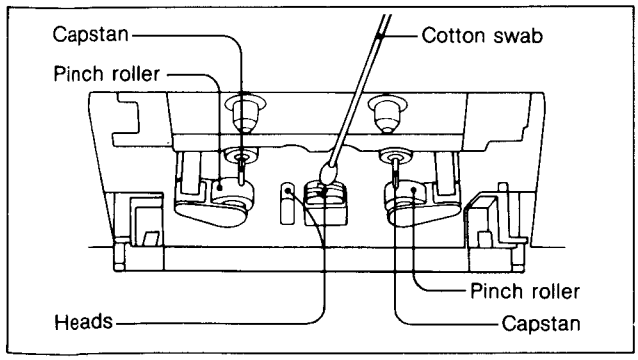
If this unit is placed near a receiver or a tuner, a "hum" noise may be heard during tape playback, recording, or AM reception of the receiver or the tuner.
If this occurs, leave as much space as possible between the units, or place them where there is the least amount of "hum".

• Maintenance

Head care

To assure good sound quality for recording and playback, be sure to clean the heads after approximately every 10 hours of use.

1) Press the power switch to switch OFF the power supply.
2) Press the eject button.
3) Clean the heads, pinch roller and the capstan shaft of each deck with a cotton swab (or with a soft, lint-free cloth) slightly moistened with alcohol.
   Do not use any solution other than alcohol for head cleaning.



Head demagnetization

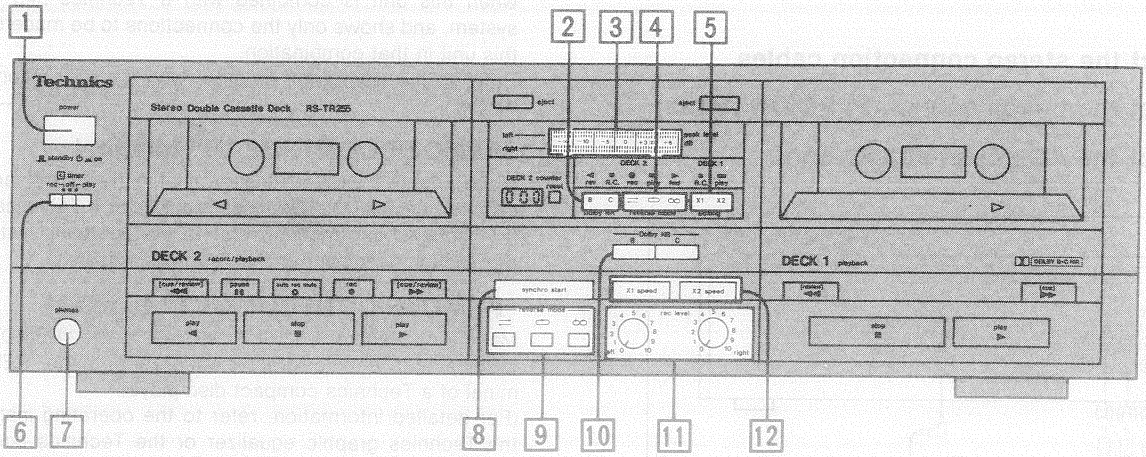
In order to maintain good sound quality during recording and playback, it is recommended that the heads should be demagnetized if distortion or poor sound quality persist after cleaning the heads.
If the heads become magnetized, they could create noise in recordings, loss of high-frequency response, or erasure of valuable recordings. Several types of head demagnetizers are available and may be purchased at local electronics supply stores. Follow the instructions that are supplied with the device.

- Do not bring any type of metal objects or tools such as magnetic screwdrivers in contact with the head assembly.

Maintenance of external surfaces

To clean this unit, use a soft, dry cloth.
For very dirty surfaces, dip a soft cloth in a weak soap-and-water solution and wring well. After cleaning, wipe with s soft, dry cloth.
Never use alcohol, paint thinner, benzine, or a chemically treated cloth to clean this unit.
Such chemicals may damage the unit's finish.

LOCATION OF CONTROLS



Controls common to both tape decks

1 Power "standby ⏻ /on" switch (power "standby ⏻ /on")

This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the "standby ⏻ " position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

2 Dolby noise-reduction indicators (B, C)

One of these indicators illuminates to show the type of Dolby noise-reduction system selected by pressing one of the Dolby noise-reduction buttons.

3 Input level meter (peak level)

During tape playback, this meter indicates the level of the recorded sound source.
During recording, it indicates the level to which the recording-level controls have been adjusted.

4 Reverse-mode indicators (⇄, ↻, ∞)

One of these indicators illuminates to show which of the reverse modes was selected by the reverse-mode selectors.

5 Edit-recording tape-speed indicators (×1 ×2)

One of these indicators illuminates to show which of the tape-to-tape recording speeds was selected by pressing one of the edit-recording tape-speed buttons.

6 Timer switch (L timer)

This switch is used to automatically begin a tape recording or tape playback at a certain time, selected by an optional timer.

7 Headphones jack (phones)

8 Synchro-start button (synchro start)

This button can be used to start a tape-to-tape recording, simultaneously starting tape deck 1 (the playback deck) and tape deck 2 (the recording deck).

9 Reverse-mode selectors (reverse mode)

These selectors can be used for selection of the reverse mode (for either playback or recording).

10 Dolby noise-reduction buttons (Dolby NR)

These buttons can be used to reduce the hiss noise that is characteristic of tape. This unit is provided with both the B-type and C-type noise-reduction systems.

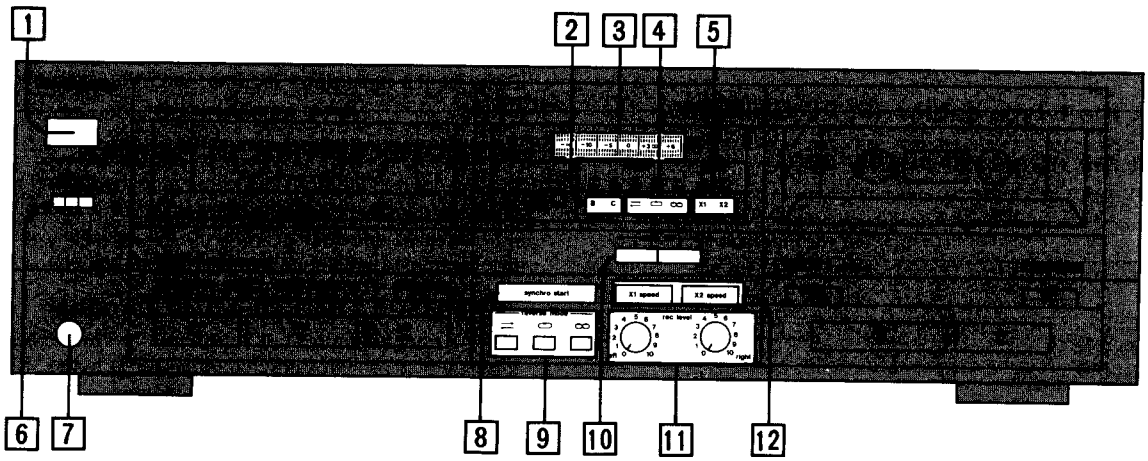
11 Recording-level controls (rec level)

These controls can be used to regulate the recording level of tape deck 2.

12 Edit-recording tape-speed buttons (speed)

These buttons can be used to select the recording speed when a tape-to-tape recording is made.

■ LOCATION OF CONTROLS



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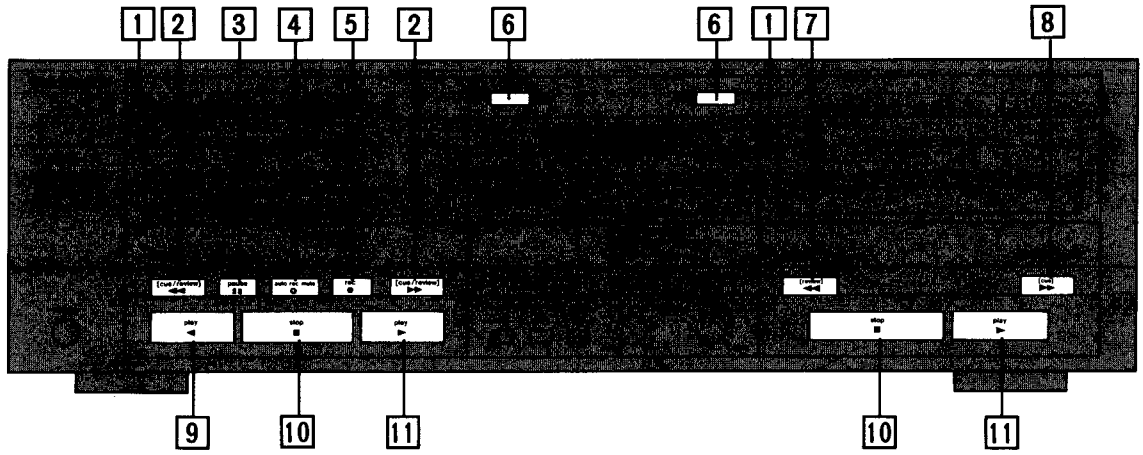


Controls applicable to tape deck 1 and/or 2

1 Cassette holder

2 Fast-forward/cue, rewind/review buttons (cue/review/◀◀/▶▶)

These buttons are used to advance or rewind the tape. During playback these buttons are used to cue or review while listening to the contents at high speed.

3 Pause button (pause/II)

This button can be used to temporarily stop the tape playback or recording of tape deck 2 only.

4 Automatic-record-muting button (auto rec mute/○)

This button can be used to make (during recording) a silent interval on the tape.

5 Record button (rec/●)

This button can be used to change tape deck 2 to the recording stand-by mode.

6 Eject button (eject)

This button can be used to open the cassette holder.

7 Rewind/review button (review/◀◀)

This button is used to rewind the tape. During playback this button is used to review the contents at high speed.

8 Fast-forward/cue button (cue/▶▶)

This button is used to advance the tape. During playback this button is used to cue the contents at high speed.

9 Reverse-side playback button (play/◀)

This button can be used to start the playback or recording of side "B" of the cassette in tape deck 2.
(The tape will then begin moving in the right-to-left direction.)

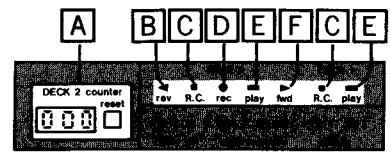
10 Stop button (stop/■)

This button can be used to stop tape movement.

11 Forward-side playback button (play/▶)

This button can be used to start the playback or recording (for tape deck 2 only) of side "A" of the cassette in this tape deck.
(The tape will then begin moving in the left-to-right direction.)

Indicators applicable only to tape deck 1 or 2



A Tape deck 2 counter/reset button (DECK 2 counter/reset)

This tape counter shows the amount of tape movement of the tape in tape deck 2.
The reset button can be used to reset the tape counter reading to "000".

B Reverse-side indicator (rev/◀)

Illuminates during playback or recording of tape deck 2, to indicate that side "B" of the tape is being used.

C Remote-control indicator (R.C.)

This indicator illuminates to indicate that this tape deck can now be controlled by the remote-control transmitter.

D Recording indicator (rec)

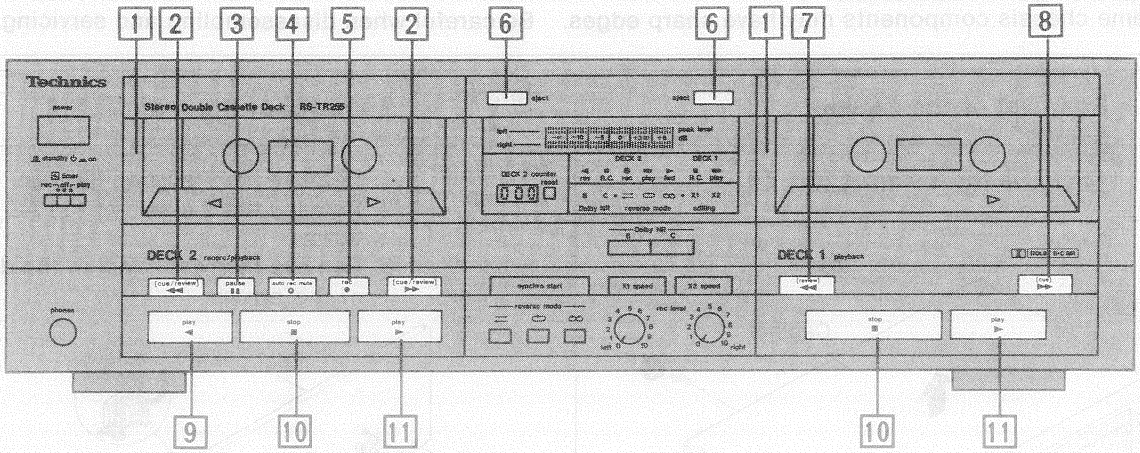
This indicator illuminates to indicate that tape deck 2 is in the recording stand-by mode.

E Playback indicator (play)

When this indicator illuminates steadily, it indicates that this tape deck is in the playback mode or the recording mode (for tape deck 2 only).
When it flashes continually, this is an indication that tape deck 2 is in the pause mode or the recording stand-by mode.

F Forward-side indicator (fwd/▶)

Illuminates during playback or recording of tape deck 2, to indicate that side "A" of the tape is being used.



Controls applicable to tape deck 1 and/or 2

1 Cassette holder

2 Fast-forward/cue, rewind/review buttons (cue/review/◀◀/▶▶)

These buttons are used to advance or rewind the tape. During playback these buttons are used to cue or review while listening to the contents at high speed.

3 Pause button (pause/❚❚)

This button can be used to temporarily stop the tape playback or recording of tape deck 2 only.

4 Automatic-record-muting button (auto rec mute/●)

This button can be used to make (during recording) a silent interval on the tape.

5 Record button (rec/●)

This button can be used to change tape deck 2 to the recording stand-by mode.

6 Eject button (eject)

This button can be used to open the cassette holder.

7 Rewind/review button (review/◀◀)

This button is used to rewind the tape. During playback this button is used to review the contents at high speed.

8 Fast-forward/cue button (cue/▶▶)

This button is used to advance the tape. During playback this button is used to cue the contents at high speed.

9 Reverse-side playback button (play/◀)

This button can be used to start the playback or recording of side "B" of the cassette in tape deck 2.
(The tape will then begin moving in the right-to-left direction.)

10 Stop button (stop/■)

This button can be used to stop tape movement.

11 Forward-side playback button (play/▶)

This button can be used to start the playback or recording (for tape deck 2 only) of side "A" of the cassette in this tape deck.
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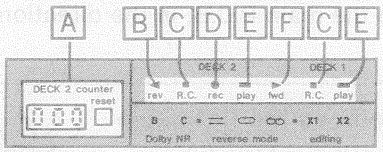

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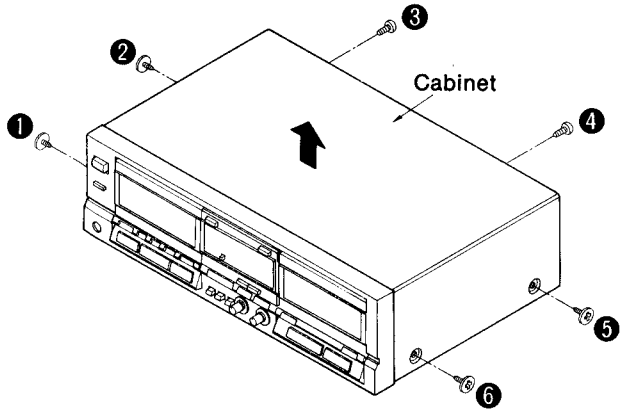
F Forward-side indicator (fwd/▶)

Illuminates during playback or recording of tape deck 2, to indicate that side "A" of the tape is being used.

■ DISASSEMBLY INSTRUCTIONS

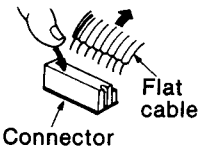
"ATTENTION SERVICER"
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

Ref. No. 1	Removal of the cabinet
Procedure 1	• Remove the 6 screws (❶~❻).



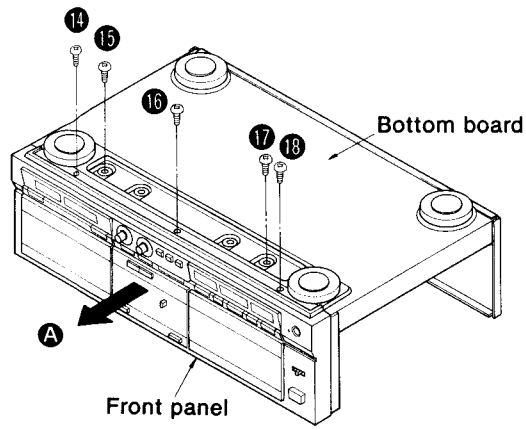
4. Remove the 6 screws (❽~⓭).
5. Remove the 2 connectors (CP1, CP2).
6. Remove the 8 flat cables (CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10).
7. Remove the main P.C.B. in the direction of the arrow.

How to remove the flat cable
Pull out the flat cable while pressing the connector.

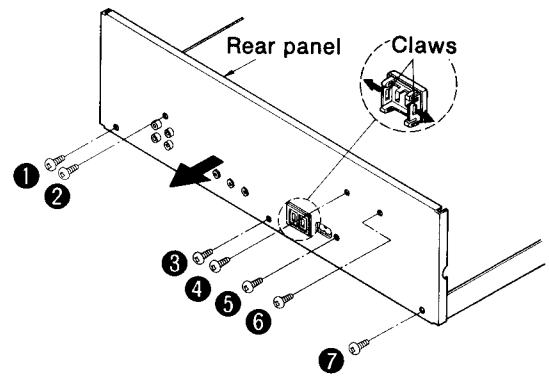


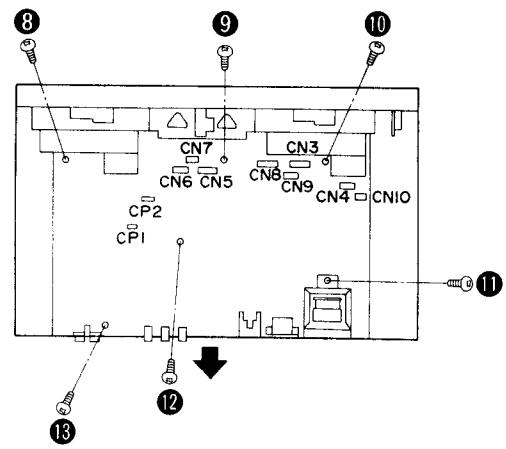
How to check the main P.C.B.

• When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show.
1. Remove the 14 screws (❶, ❸, ❼~⓲).
2. Remove the front panel in the direction of the arrow Ⓐ.

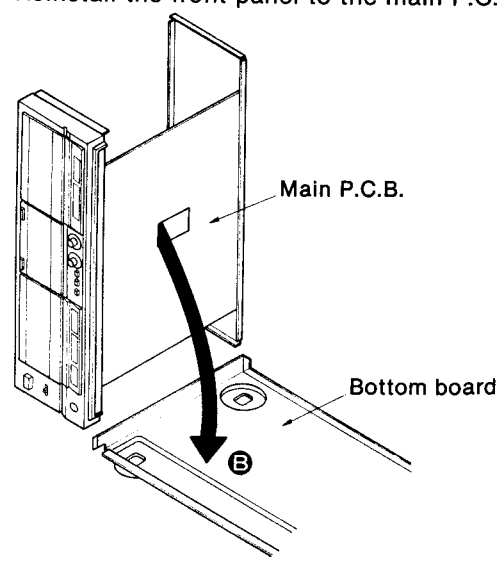


Ref. No. 2	Removal of the main P.C.B.
Procedure 1→2	1. Remove the 7 screws (❶~❼). 2. Release the 2 claws of the AC outlet cover. 3. Remove the rear panel in the direction of the arrow.

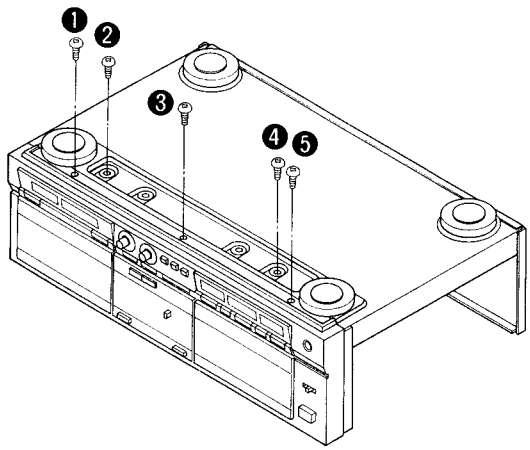




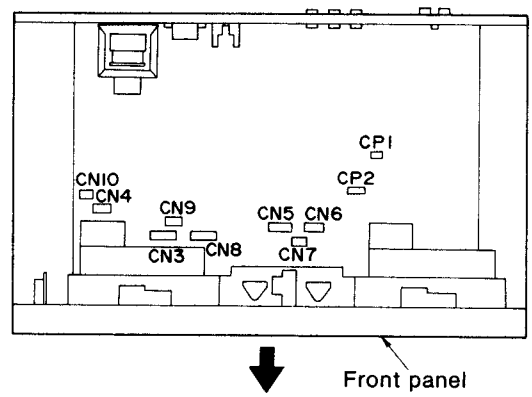
3. Remove the bottom board in direction of the arrow Ⓑ.
4. Reinstall the front panel to the main P.C.B.



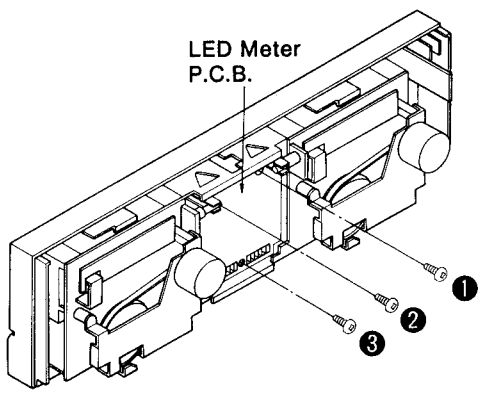
Ref. No. 3	Removal of the front panel ass'y
Procedure 1→3	1. Remove the 5 screws (❶~❺).



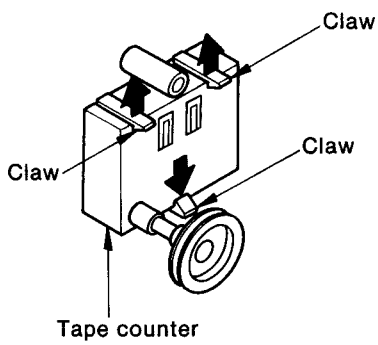
2. Remove the 2 connectors (CP1, CP2).
3. Remove the 8 flat cables (CN3, CN4, CN5, CN6, CN7, CN8, CN9, CN10).
4. Remove the front panel in the direction of the arrow.



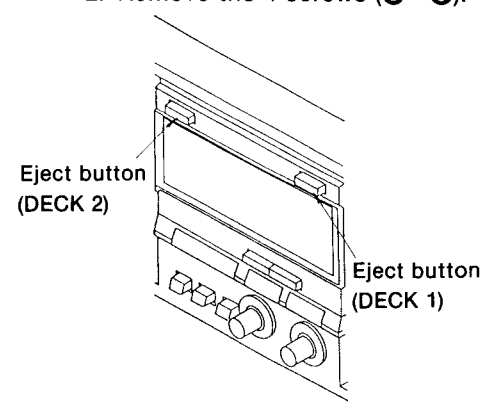
Ref. No. 4	Removal of the LED meter P.C.B.
Procedure 1→3→4	1. Remove the 3 screws (❶~❸). 2. Remove the meter P.C.B. in the direction of the arrow.

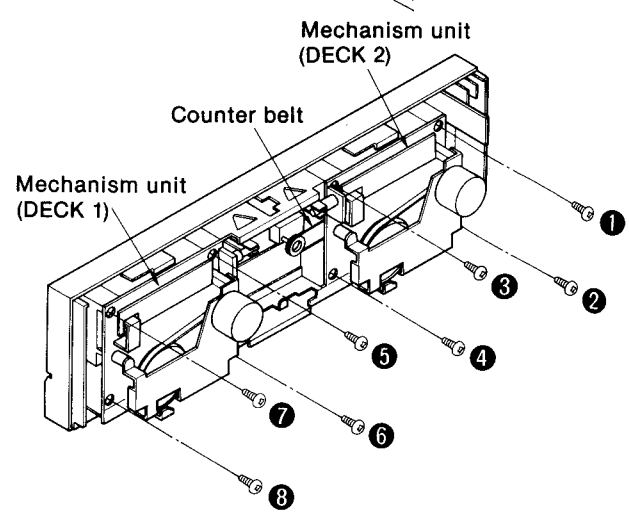


Ref. No. 6	Removal of the tape counter
Procedure 1→3→4→6	• Release the 3 claws.



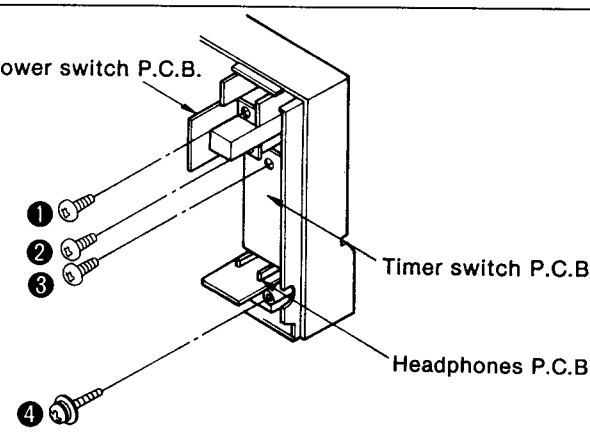
Ref. No. 5	Removal of the mechanism units
Procedure 1→3→4→5	• Mechanism unit (DECK 2) 1. Push the eject button. 2. Remove the 4 screws (❶~❹). 3. Remove the counter belt. • Mechanism unit (DECK 1) 1. Push the eject button. 2. Remove the 4 screws (❺~❽).



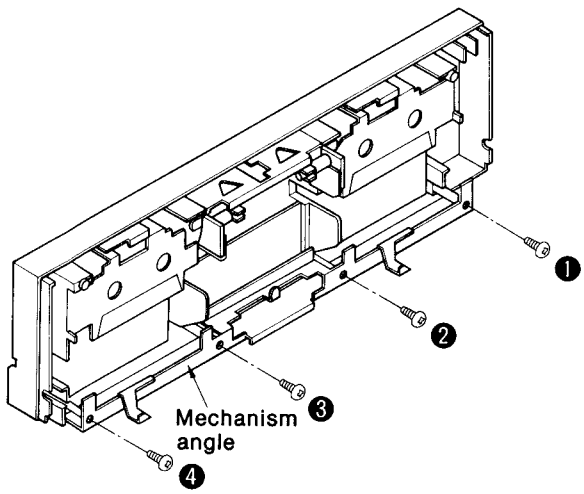


D

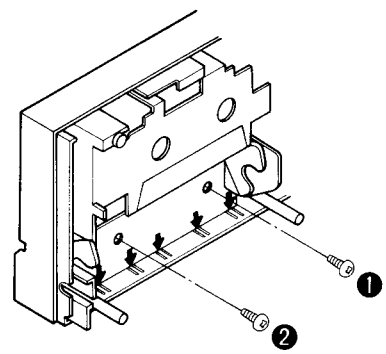
Ref. No. 7	**Removal of the power switch P.C.B., timer switch P.C.B. and headphones P.C.B.**
Procedure 1→3→7	• Removal of the power switch P.C.B. 1. Remove the 2 screws (❶, ❷). • Removal of the timer switch P.C.B. 1. Remove the 1 screw (❸). • Removal of the headphones P.C.B. 1. Remove the 1 screw (❹).



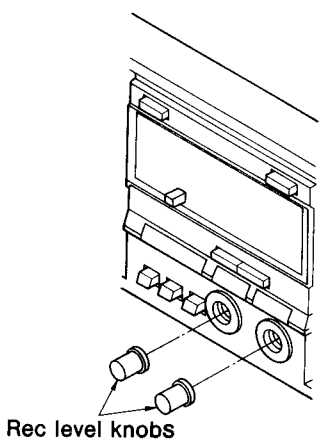
Ref. No. 8	**Removal of the mechanism angle**
Procedure 5→8	• Remove the 4 screws (❶~❹).

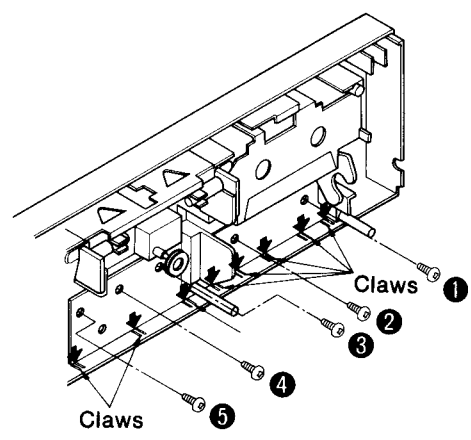


Ref. No. 9	**Removal of the operation (DECK 1) P.C.B.**
Procedure 5→8→9	1. Remove the 2 screws (❶, ❷). 2. Release the 5 claws.



Ref. No. 10	**Removal of the operation (DECK 2) P.C.B.**
Procedure 5→8→10	1. Remove the rec level 2 knobs. 2. Remove the 5 screws (❶~❺). 3. Release the 8 claws.

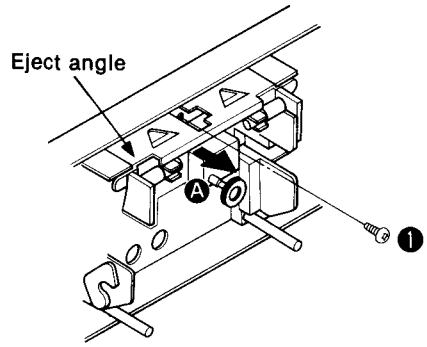




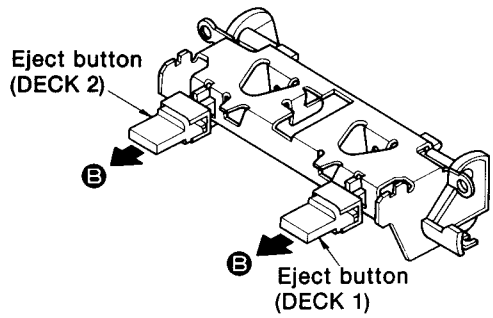
D

Ref. No. 11 | **Removal of the eject angle, eject buttons, and eject lever**

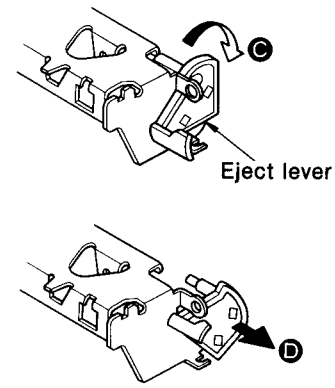
Procedure 3→4→5→11



1. Remove the 1 screw (❶).
2. Pull out the eject angle in the direction of the arrow Ⓐ.



3. Pull out the eject buttons in the direction of the arrow Ⓑ.

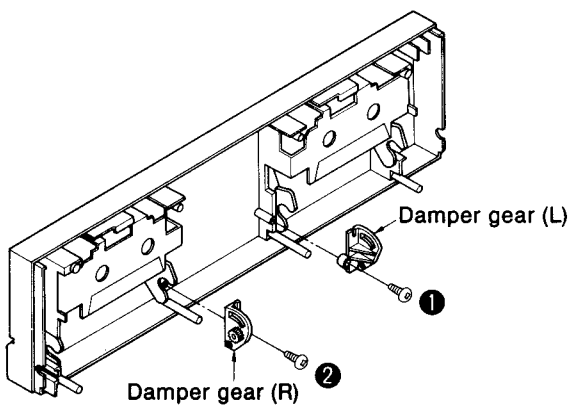


4. Turn the eject lever in the direction of the arrow Ⓒ, and remove the eject lever in the direction of the arrow Ⓓ.

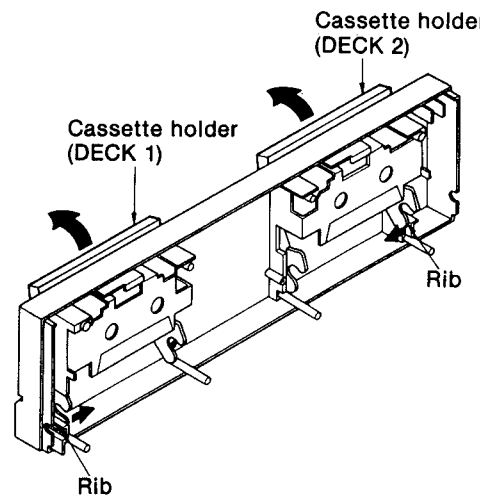
Ref. No. 12 | **Removal of the cassette holder (DECK 1 & DECK 2)**

Procedure 5→8→12

1. Remove the 2 screws (❶, ❷).
2. Remove the damper gear (L) and damper gear (R).



3. Remove the rib in the direction of the arrow.
4. Remove the cassette holder in the direction of the arrow.

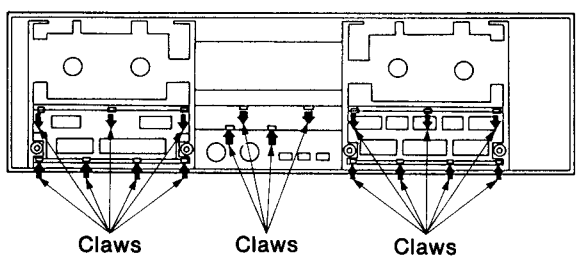


Ref. No. 13 | **Removal of the operation button ornament and edit button ornament**

Procedure 9→10→12→13

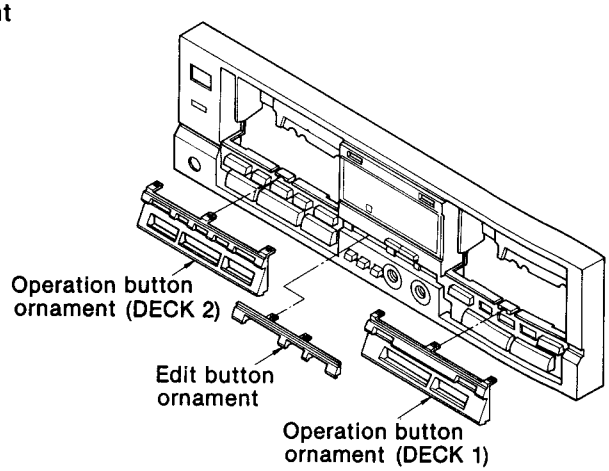
A. Removal of the operation button ornament (DECK 1, DECK 2).

1. Release the 14 claws.



B. Removal of the edit button ornament.

1. Release the 4 claws.



D

■ MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- Reverse-mode selector switch; ⇄
- Edit-recording tape-speed selector; X1
- Dolby NR switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C (68±9°F)

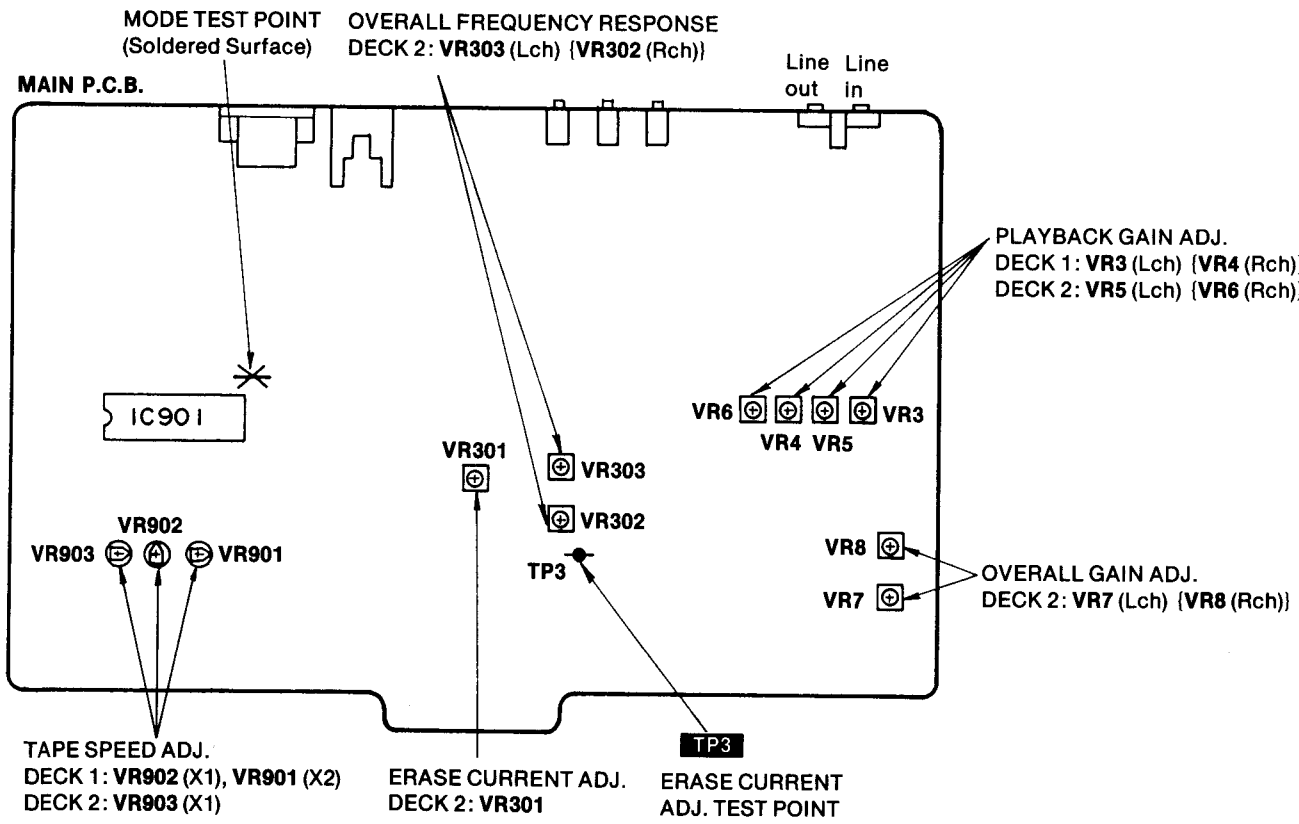
Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

Test tape

- Head azimuth adjustment (8kHz, −20dB); QZZCFM
- Tape speed adjustment (3kHz, −10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, −20dB); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
  Normal reference blank tape ; QZZCRA
  CrO_2 reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

• Adjustment Points



D

HEAD AZIMUTH ADJUSTMENT (DECK 2/1)

1. Playback the azimuth adjustment portion (8kHz, −20dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-CH and R-CH are maximized and the lissajous waveform, as illustrated, approaches 0 degrees.

Note: If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

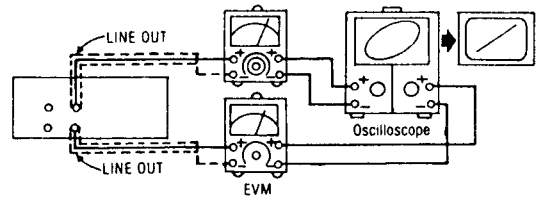


Fig. 1

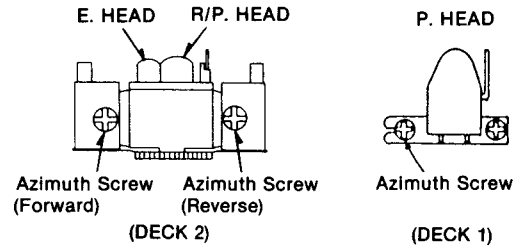


Fig. 2

TAPE SPEED ADJUSTMENT (DECK 2/1)

Normal speed

1. Shift the edit-recording tape-speed selector to "**X1**" .
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust Deck 1=**VR902** and Deck 2=**VR903** so that the output is within the standard value.

High speed

4. Shift the edit-recording tape speed switch to "**X2**".
5. Playback the middle portion of the test tape (QZZCWAT).
6. Adjust Deck 1=**VR901** so that the output is within the standard value.

Note: The Normal speed adjustment must be done before the High speed adjustment.

Standard value: 3000±15Hz (Normal), 6000±600Hz (High)

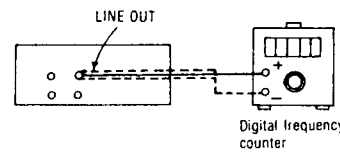


Fig. 3

PLAYBACK GAIN ADJUSTMENT (DECK 2/1)

1. Playback the gain adjusted portion (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck 1=**VR3** (L-CH) [[**VR4** (R-CH)]] and Deck 2=**VR5** (L-CH) [[**VR6** (R-CH)]] so that the output is within the standard value.

Standard value: 0.4V±0.5dB

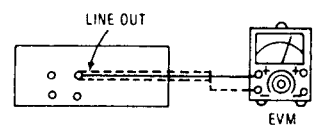


Fig. 4

PLAYBACK FREQUENCY RESPONSE (DECK 2/1)

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, −20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in **Fig. 6** for both L-CH and R-CH.

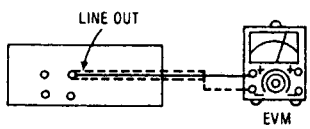


Fig. 5

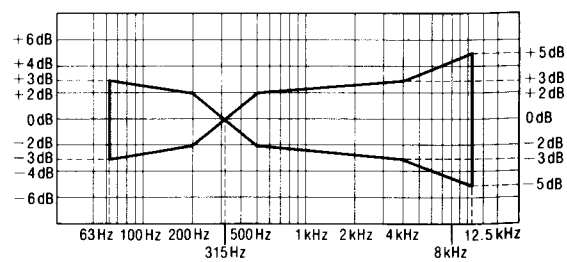


Fig. 6

D

ERASE CURRENT ADJUSTMENT (DECK 2)

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Adjust **VR301** so that the output between **TP3** and GND is within the standard value.

Standard value: 190±5mA (Metal)...EVM Reading: 190±5mV

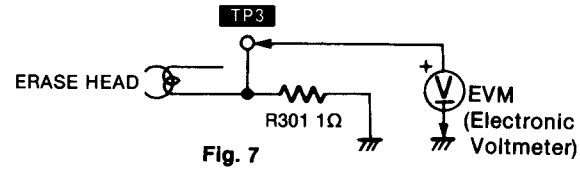


Fig. 7

OVERALL FREQUENCY RESPONSE (DECK 2)

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record Pause mode.
2. Apply a reference input signal (1kHz, −24dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50Hz~10kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in **Fig. 8** in comparison to the reference frequency (1kHz).
6. If it is not within the standard range, adjust **VR303** (L-CH) and **VR302** (R-CH) so that the frequency level is within the standard range.
   - Level up in high frequency range .....Increase the bias current.
   - Level down in high frequency range ...Decrease the bias current.
7. Repeat steps 2~6 above using the CrO_2 tape (QZZCRX) and the Metal tape (QZZCRZ) increasing the frequency range to 12.5kHz (50Hz~12.5kHz).
8. Assure that the level is within the range shown in **Fig. 9.**

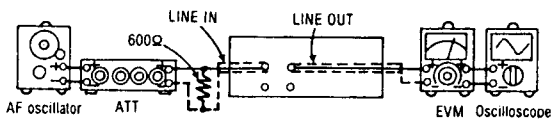


Fig. 10

Normal Overall frequency response chart (NR OUT)

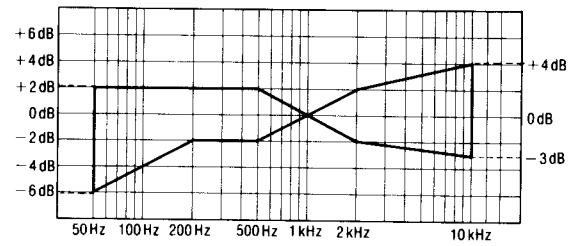


Fig. 8

CrO_2 Metal Overall frequency response chart (NR OUT)

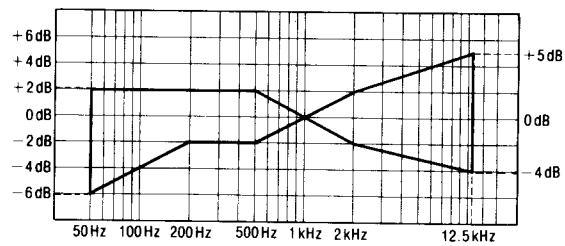


Fig. 9

OVERALL GAIN ADJUSTMENT (DECK 2)

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record pause mode.
2. Apply a reference input signal (1kHz, −24dB). Attenuate the output so that its level becomes 0.4V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust **VR7** (L-CH) and **VR8** (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value: 0.4V±0.5dB

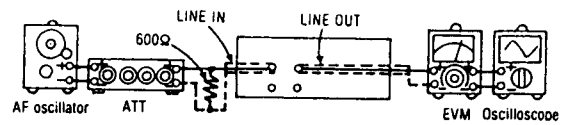


Fig. 11

D

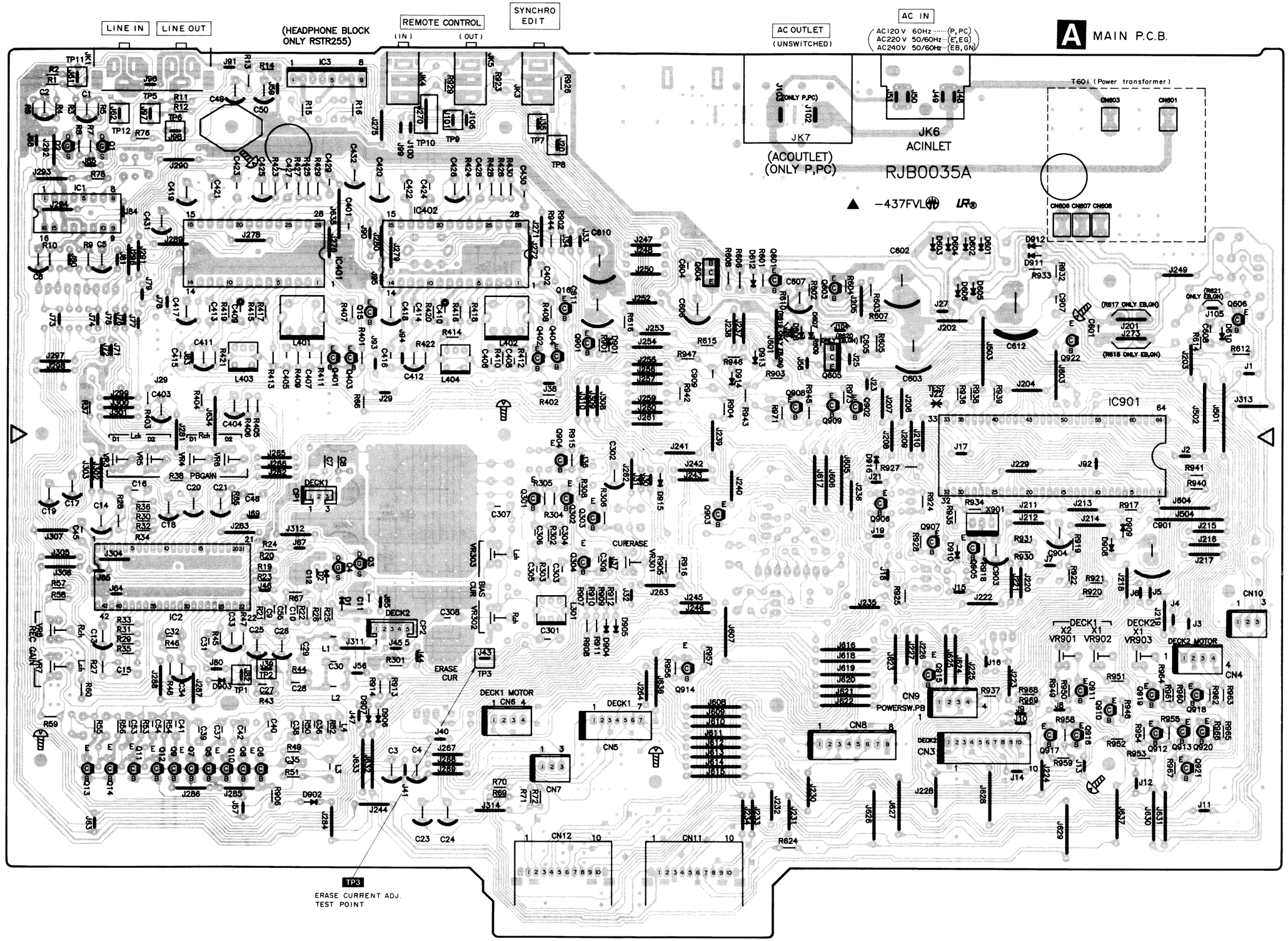
■TERMINAL FUNCTION OF IC's

• IC901 (M50746-145SP): MICROCOMPUTER

Pin No.	Mark	I/O Division	Function
1	Vcc	I	Power supply terminal
2	AV_{SS}	—	• Connected to V_{SS}
3	V_{REF}	I	Standard voltage terminal (5V)
4	CRM	O	CUE/REV mute signal • "L" level in muting is off mode. • "H" level in muting is on mode.
5	$\overline{\text{DIR 2}}$	O	Direction indicator signal of deck 2 • "L" level with forward mode. • "OPEN" with reverse mode.
6	MMT	O	Mater mute control signal • "L" level in muting is off mode. • "OPEN" when muting is on mode.
7	LMT	O	Line out mute signal (Not used, open)
8	RMT 2	O	Rec. amp. mute signal of deck 2 • "L" level in mute is off mode. • "H" level in mute is on mode.
9	DMT	O	Line out mute signal • "L" level in muting is off mode. • "OPEN" when muting is on mode.
10	REV 2	—	Connected to GND
11	REV 1	—	Connected to GND
12	KEY 2	I	Key switch scan (DECK 2: STOP, F.F., REW, F. PLAY, R. PLAY, REC., PAUSE, S. START, X2, X1, DOLBY NR)
13	KEY 1	I	Key switch scan (DECK 1: STOP, F.F., REW, PLAY,⇄,⊂⊃,∞)
14	$\overline{\text{PLAY 2}}$	O	Deck 2 Playback LED display/CUE, REV, LED display
15	$\overline{\text{PLAY 1}}$	O	Deck 1 Playback LED display/CUE, REV, LED display
16	$\overline{\text{ARM 2}}$	I	Auto Rec. mute terminal. "L"=KEY ON, "H"=KEY OFF
17	$\overline{\text{REC 1}}$	I	Not used.
18	$\overline{\text{REC 2}}$	O	Deck 2 Rec. mode LED display • "L" level in Deck 2 Rec. mode. • "H" level in other mode.
19	$\overline{\text{REM 2}}$	O	Deck 2 Remote control LED display • "L" level in LED on mode. • "H" level in LED off mode.
20	$\overline{\text{REM 1}}$	O	Deck 1 Remote control LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
21	RENA	O	B side select signal to CD player, used during CD synchro editing mode.
22	SYNC	I	Synchro start signal input from CD player
23	RCS	I	Remote control serial data
24	TREC	I	Timer rec terminal
25	TPLAY	I	Timer play terminal
26	POF	I	Primary AC power detection terminal
27	CNV_{SS}	—	Connected to V_{SS}
28	$\overline{\text{RESET}}$	I	Reset terminal • "L" level when reset is on mode. • "L" → "H" level when reset is off mode.
29	XIN	I	Clock OSC terminal
30	XOUT	O	
31	φ	I	Not used, open.
32	V_{SS}	—	Connected to GND
33	$\overline{\text{TEST}}$	—	Test terminal
34	PWIN	I	Power ON/OFF switch input • "L" level with power ON • "H" level with power OFF
35	REEL 1	I	Deck 1 Rotation pulse signal of reel table

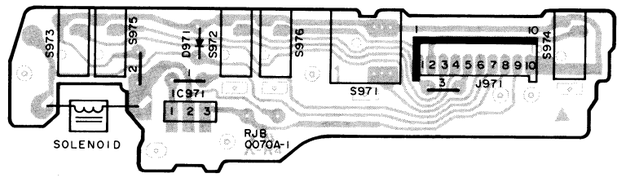
Pin No.	Mark	I/O Division	Function
36	REEL 2	I	Deck 2 Rotation pulse signal of reel table
37	RINH 2	I	Deck 2 Reverse Rec. Inh. switch select terminal
38	FINH 2	I	Deck 2 Forward Rec. Inh. switch select terminal
39	MODE 1	I	Deck 1 mechanism mode switch select termnal
40	HALF 1	I	Deck 1 cassette half detection switch • "L" level in half detection switch is on mode. • "H" level in half detection switch is off mode.
41	MPX	O	MPX filter IN/OUT control signal • "OPEN" with Dolby NR "IN" • "L" level with Dolby NR "OUT"
42	$\overline{T2}$	O	Deck 2 play select signal • "L" level with PLAY/CUE/REVIEW mode. • "H" level with any other mode.
43	$\overline{X2}$	O	X2 Speed LED display • "L" level when LED is on mode. • "OPEN" when other mode.
44	$\overline{X1}$	O	X1 Speed LED display • "L" level when LED is on mode. • "OPEN" when other mode.
45	T/S	I	Connected to GND
46	$\overline{C}$	O	Dolby C LED display • "L" level when LED is on mode. • "OPEN" when other mode.
47	$\overline{B}$	O	Dolby B LED display • "L" level when LED is on mode. • "OPEN" when other mode.
48	$\overline{ENC}$	O	Encode/Decode select signal • "L" level in encode mode. • "H" level in decode mode.
49	C/M	I	Deck 1 one-way mechanism select terminal (Connected to GND)
50	$\overline{PWOUT}$	O	Power ON/OFF output terminal
51	$\overline{SDATA}$	O	Serial data output (Not used, open)
52	P04 (∞)	O	Reverse mode (∞) LED display.
53	P03 (⇄)	O	Reverse mode (⇄) LED display.
54	P02 (⇄)	O	Reverse mode (⇄) LED display.
55	DIR 1	O	Direction indicator signal of deck 1 (Not used, open)
56	FINH 1	I	Deck 1 Forward Rec. Inh. switch select terminal
57	HSP 1	O	Deck 1 Motor speed control signal • "L" level when normal speed (X1). • "H" level when high speed (X2).
58	SOL 1	O	Deck 1 Solenoid control signal • "H" level when solenoid is on mode. • "L" level when solenoid is off mode.
59	MOTOR 1	O	Deck 1 Motor control signal • "H" level when motor is on mode. • "L" level when motor is off mode.
60	MODE 2	I	Deck 2 mechanism mode switch select terminal
61	HALF 2	I	Deck 2 cassette half detection switch • "L" level in half detection switch in on mode. • "H" level in half detection switch in off mode.
62	HSP 2	O	Deck 2 Motor speed control signal • "H" level when normal speed (X1). • "L" level when high speed (X2).
63	SOL 2	O	Deck 2 Solenoid control signal • "H" level when solenoid is on mode. • "L" level when solenoid is off mode.
64	MOTOR 2	O	Deck 2 Motor control signal • "H" level when motor is on mode. • "L" level when motor is off mode.

■ PRINTED CIRCUIT BOARDS

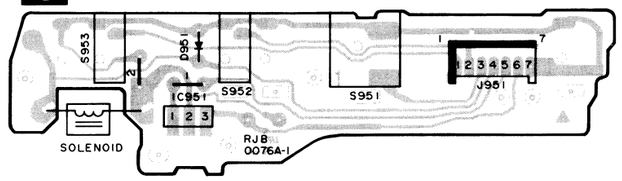


10 11 12 13 14 15 16 17 18 19

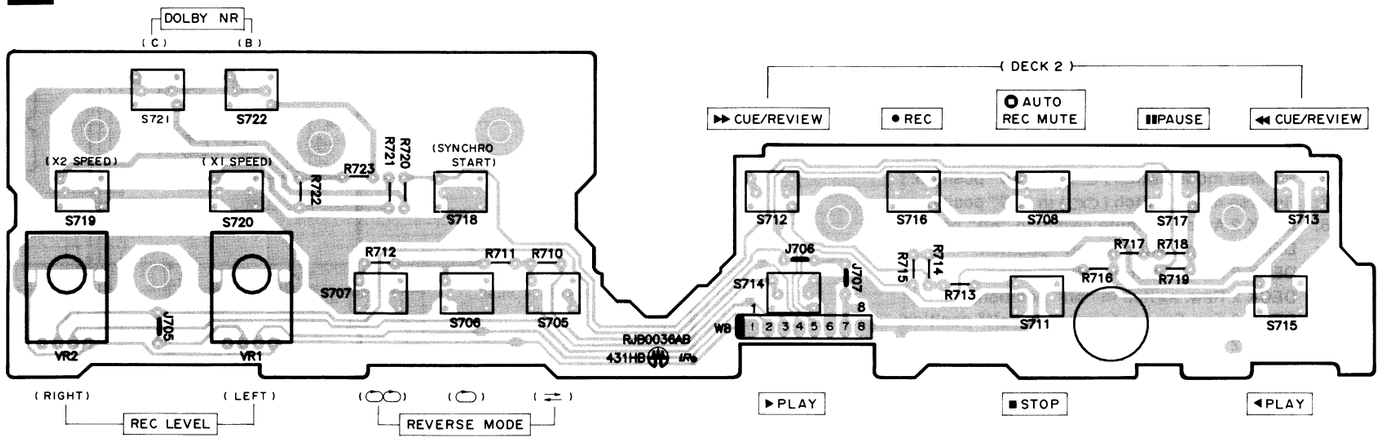
B MECHANISM (DECK2) P.C.B.



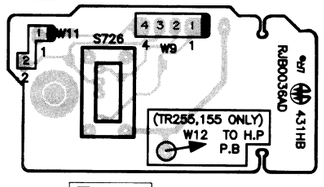
C MECHANISM (DECK1) P.C.B.



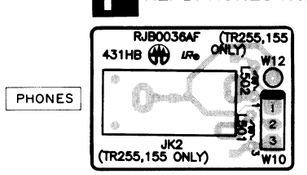
I OPERATION (DECK2) P.C.B.



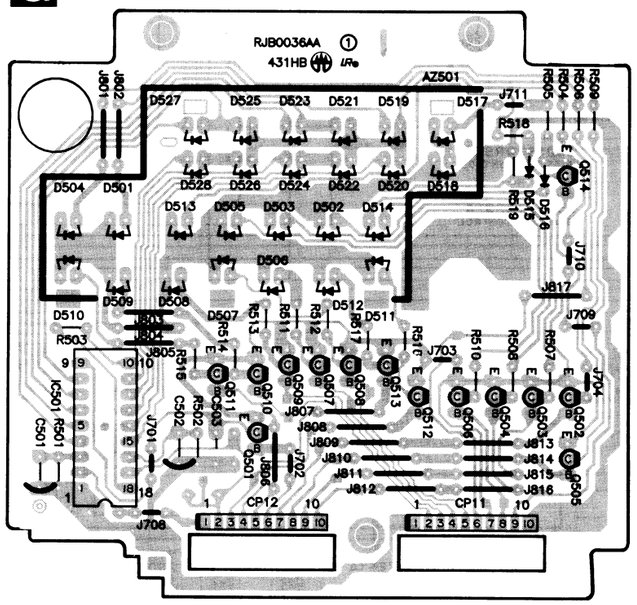
D TIMER SWITCH P.C.B.



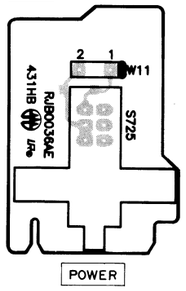
F HEADPHONES P.C.B.



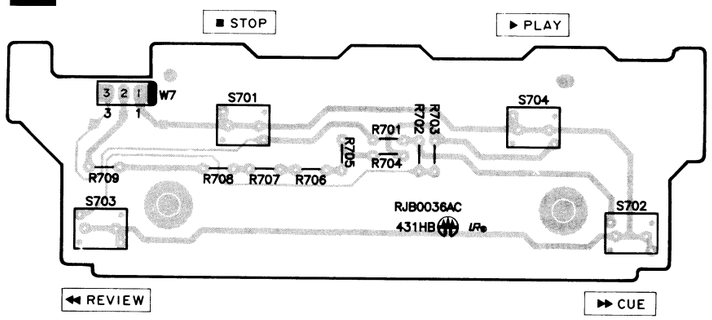
G LED METER P.C.B.



E POWER SWITCH P.C.B.



H OPERATION (DECK1) P.C.B.



■ SCHEMATIC DIAGRAM

(Parts list on pages 29~35.)

(This schematic diagram may be modified at any time with development of new technology.)

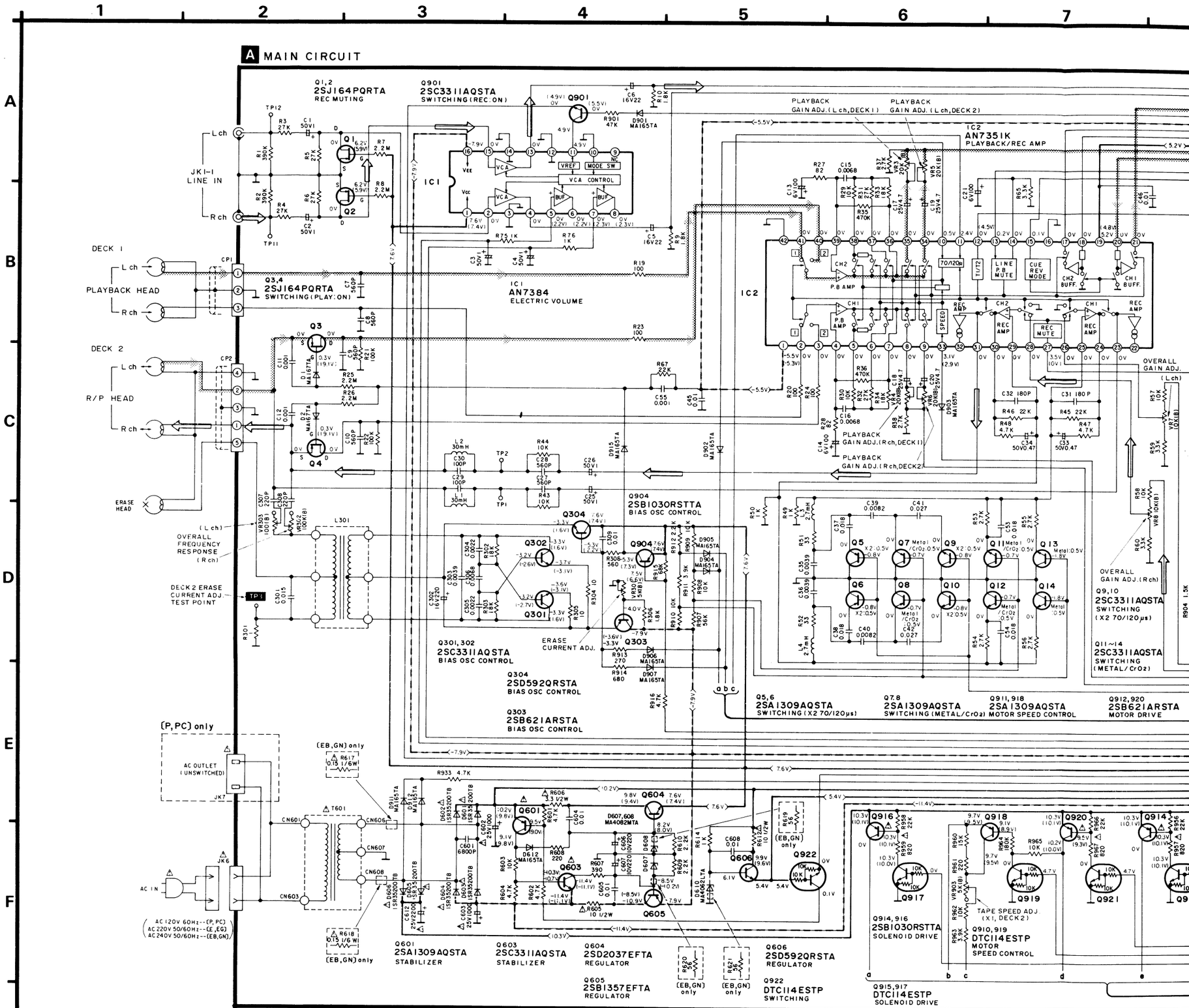
Notes:

- S701: DECK 1 Stop switch in "**off**" position.
- S702: DECK 1 F.F. switch in "**off**" position.
- S703: DECK 1 Rew. switch in "**off**" position.
- S704: DECK 1 For. Playback switch in "**off**" position.
- S705: Reverse mode switch (⇄) in "**off**" position.
- S706: Reverse mode switch (⟲) in "**off**" position.
- S707: Reverse mode switch (⟲⟲) in "**off**" position.
- S708: DECK 2 Auto rec. mute switch in "**off**" position.
- S711: DECK 2 Stop switch in "**off**" position.
- S712: DECK 2 F.F. switch in "**off**" position.
- S713: DECK 2 Rew. switch in "**off**" position.
- S714: DECK 2 For. Playback switch in "**off**" position.
- S715: DECK 2 Rev. Playback switch in "**off**" position.
- S716: DECK 2 Record switch in "**off**" position.
- S717: DECK 2 Pause switch in "**off**" position.
- S718: Synchro-start switch in "**off**" position.
- S719: Editing tape speed selector (X2) in "**off**" position.
- S720: Editing tape speed selector (X1) in "**off**" position.
- S721: Dolby NR C switch in "**off**" position.
- S722: Dolby NR B switch in "**off**" position.
- S725: Power switch in "**on**" position.
- S726: Timer switch in "**off**" position.
- S951: DECK 1 Mode switch in "**off**" position.
- S952: DECK 1 Cassette half detection switch in "**off**" position.
- S953: DECK 1 ATS (CrO_2) switch in "**off**" position.
- S971: DECK 2 Mode switch in "**off**" position.
- S972: DECK 2 Cassette half detection switch in "**off**" position.
- S973: DECK 2 Rev. Rec Inhibit switch in "**off**" position.
- S974: DECK 2 For. Rec Inhibit switch in "**off**" position.
- S975: DECK 2 ATS (CrO_2) switch in "**off**" position.
- S976: DECK 2 ATS (Metal) switch in "**off**" position.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
  1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  ( ).....Voltage values at record mode.
  For measurement us EVM.
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- (▬▬ <+B> ▬▬) indicates +B (bias).
- (▬▬ <−B> ▬▬) indicates −B (bias).
- (▒▒▒) indicates the flow of the playback signal.
- (⟹) indicates the flow of the record signal.

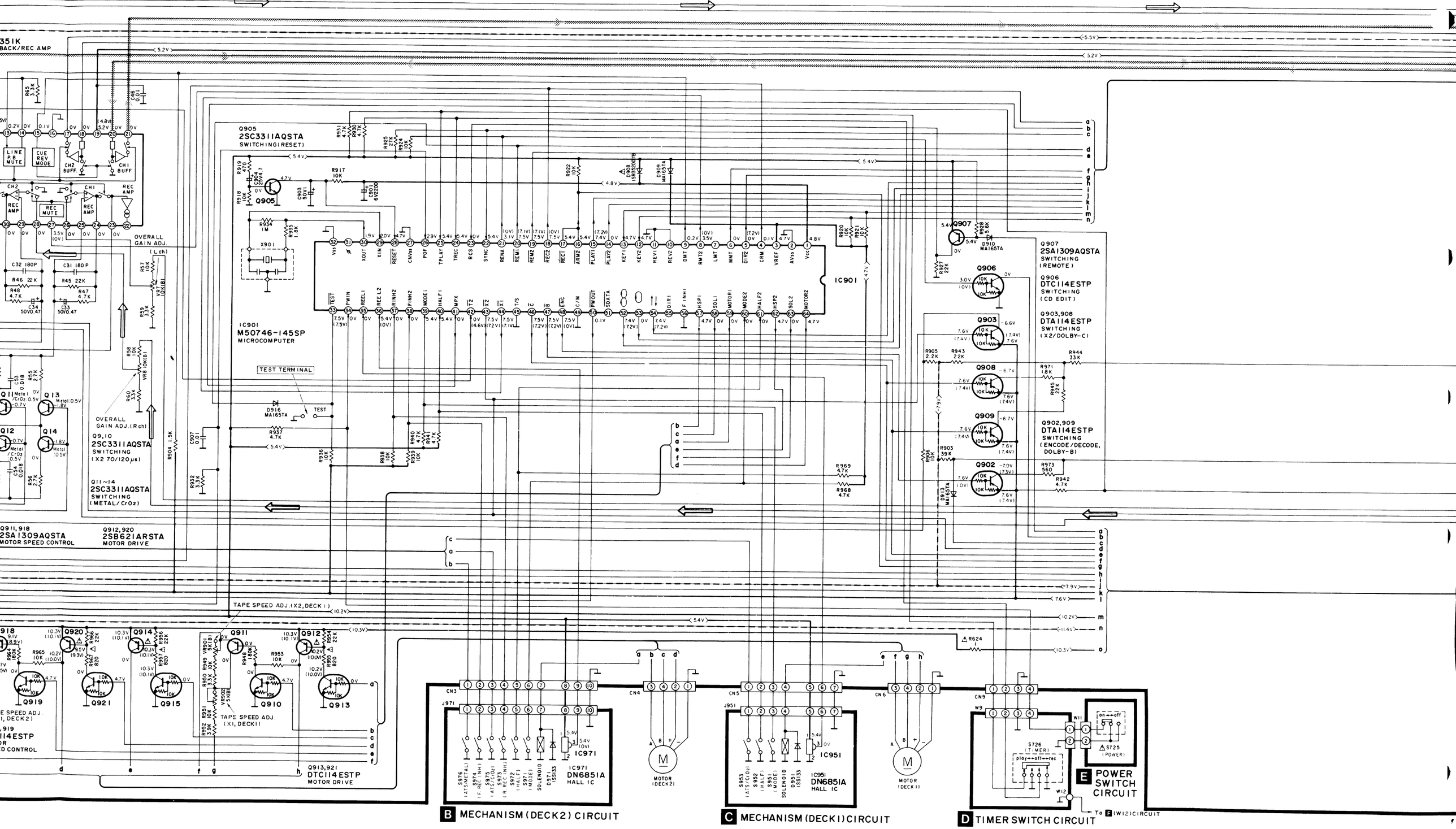
* Caution!

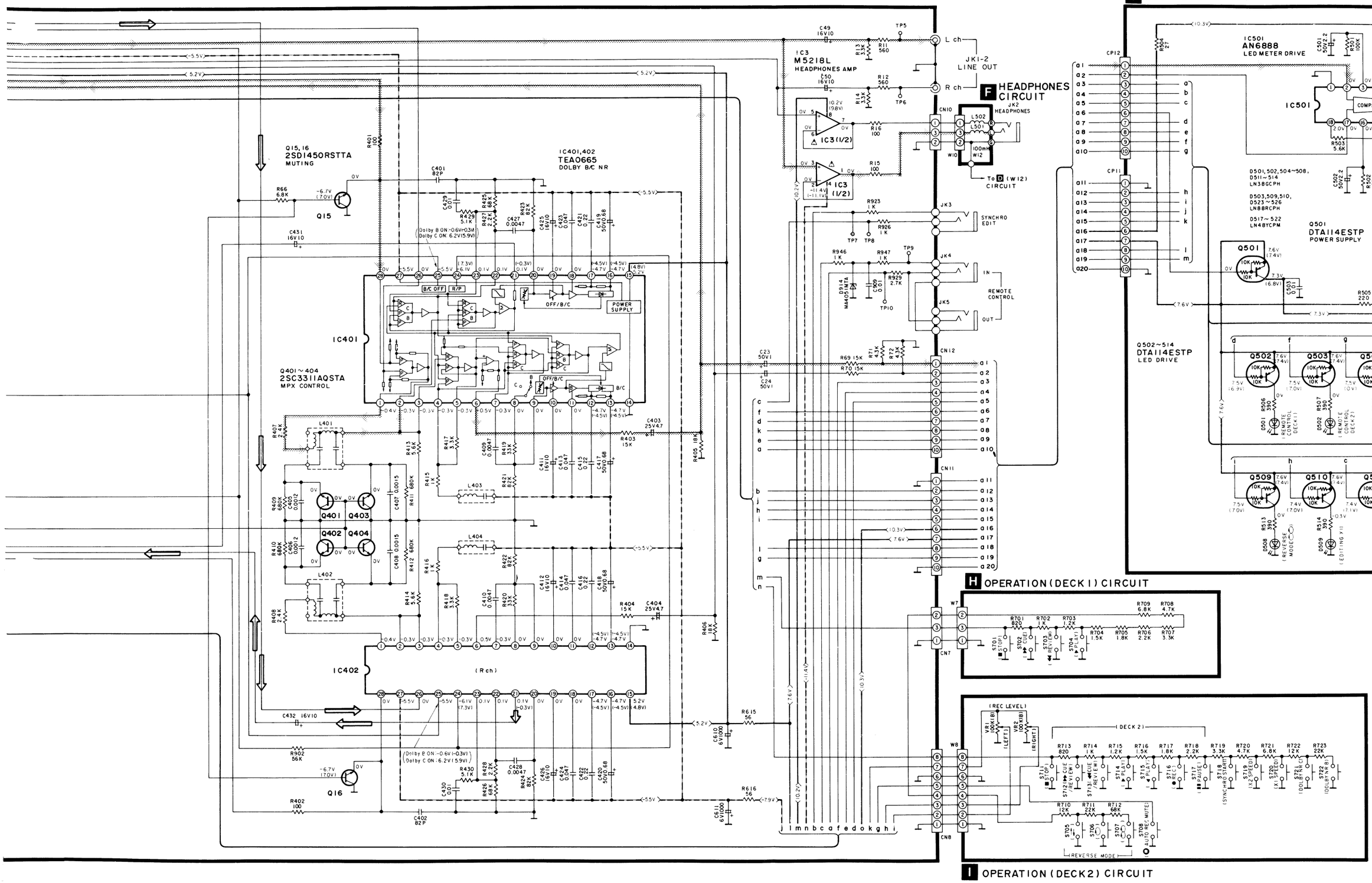
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

* Cover the parts boxes made of plastics with aluminum foil.
* Ground the soldering iron.
* Put a conductive mat on the work table.
* Do not touch the legs of IC or LSI with the fingers directly.

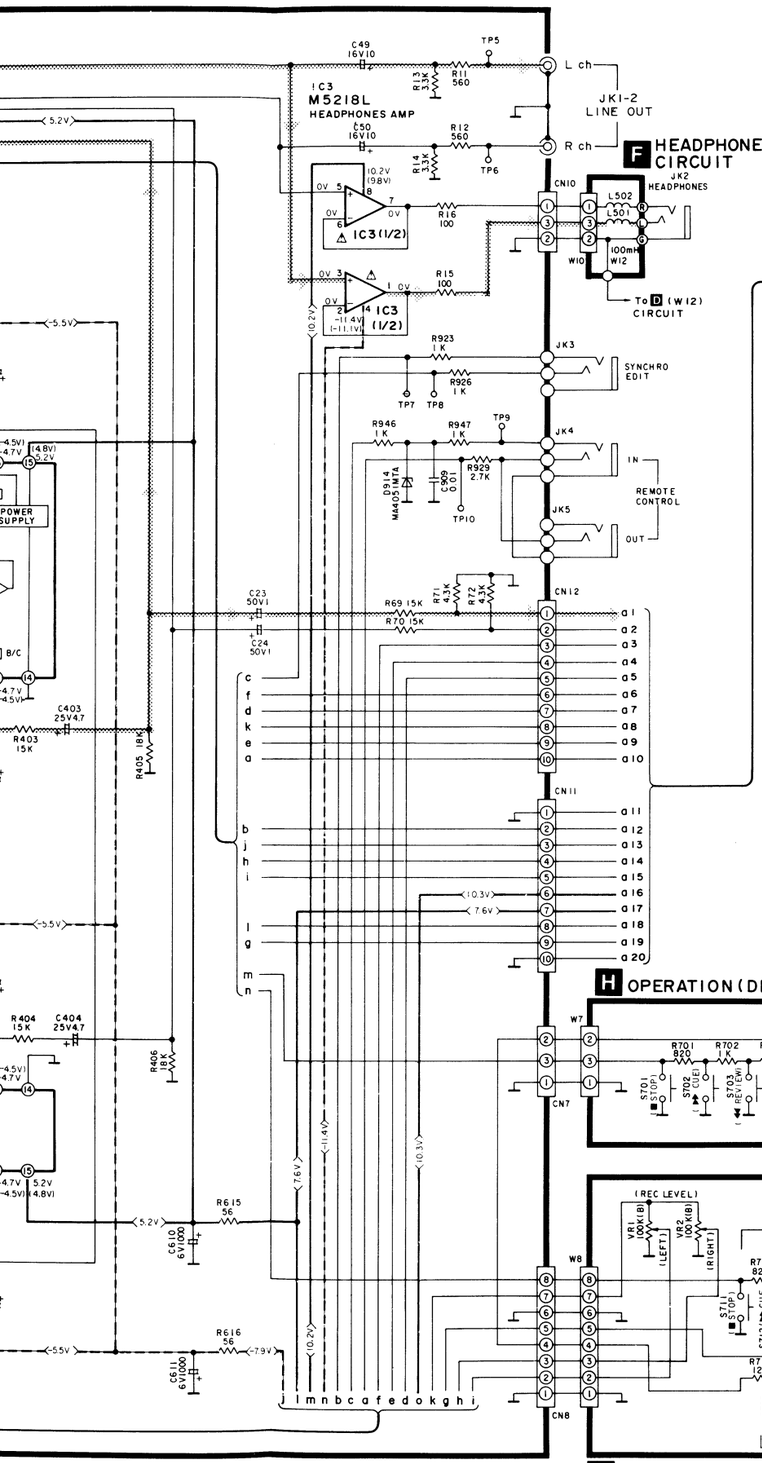


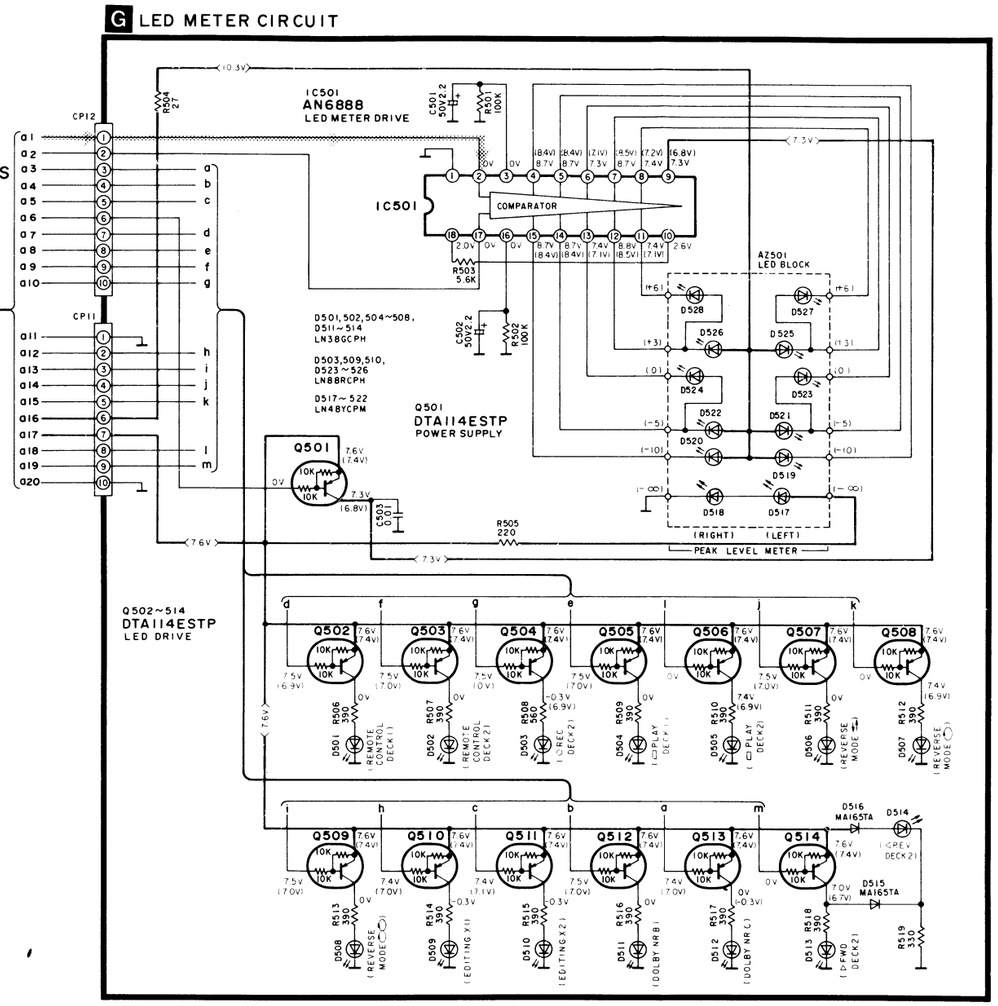
7 8 9 10 11 12 13 14 15 16




Q15,16
2SD1450RSTTA
MUTING
IC401,402
TEA0665
DOLBY B/C NR
IC401
Q401~404
2SC3311AQSTA
MPX CONTROL
IC402
(Rch)
Q401
Q402
Q403
Q404
Q15
Q16
IC3
M5218L
HEADPHONES AMP
IC3(1/2)
F HEADPHONES CIRCUIT
JK2
HEADPHONES
JK1-2
LINE OUT
L ch
R ch
To D (W12) CIRCUIT
JK3
SYNCHRO EDIT
JK4
IN
REMOTE CONTROL
JK5
OUT
CN10
CN11
CN12
CN7
CN8
W7
W8
W10
W12
G LED METER CIRCUIT
IC501
AN6888
LED METER DRIVE
COMPARATOR
Q501
DTA114ESTP
POWER SUPPLY
Q502~514
DTA114ESTP
LED DRIVE
D501,502,504~508,
D511~514
LN38GCPH
D503,509,510,
D523~526
LN88RCPH
D517~522
LN4BYCPM
H OPERATION (DECK1) CIRCUIT
I OPERATION (DECK2) CIRCUIT
(REC LEVEL)
(DECK 2)
(REVERSE MODE)
B/C OFF
R/P
OFF/B/C
POWER SUPPLY
B/C

21 22 23 24 25 26 27 28





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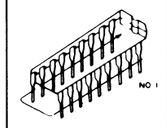
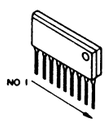
■ TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES



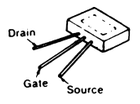
AN7384	16 Pin
AN6888	18 Pin
TEA0665	28 Pin
AN7351K	42 Pin
M50746-145SP	64 Pin

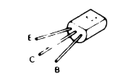
DN6851A	3 Pin



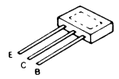
M5218L	8 Pin

2SJ164PQRTA



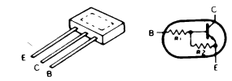


2SB621ARSTA
2SD592QRSTA

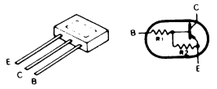


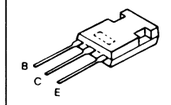
2SA1309AQSTA
2SC3311AQSTA
2SD1450RSTTA
2SB1030RSTTA

DTC114ESTP

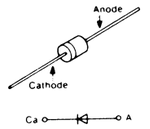


DTA114ESTP

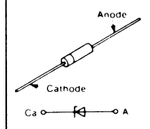




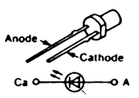
2SB1357EFTA
2SD2037EFTA



MA167TA
MA165TA
1SR35200TB
1SS133



MA4062LTA
MA4082MTA
MA4051MTA



LN38GCPH (GREEN)
LN48YCPH (AMBER)
LN88RCPH (ORANGE)

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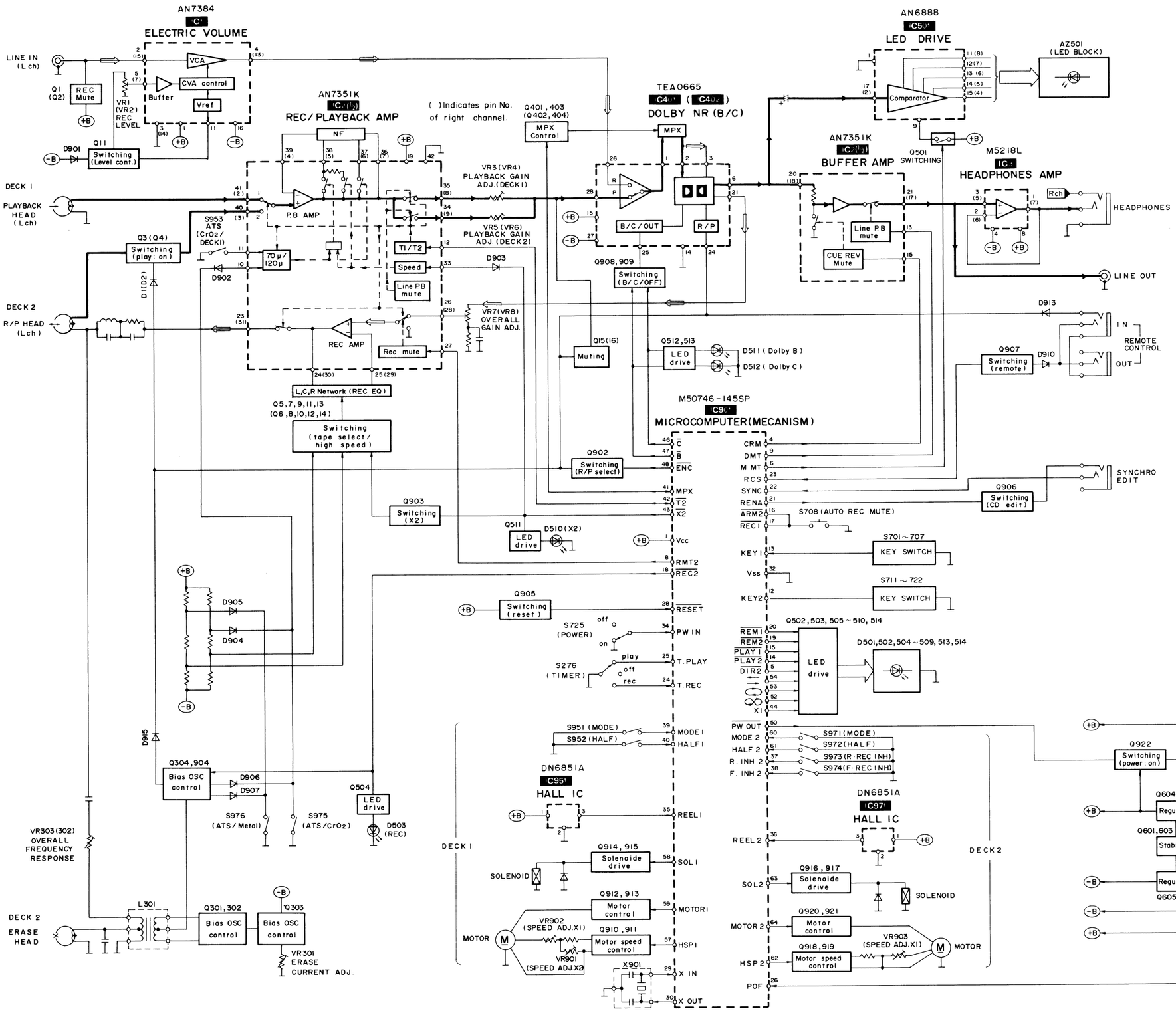
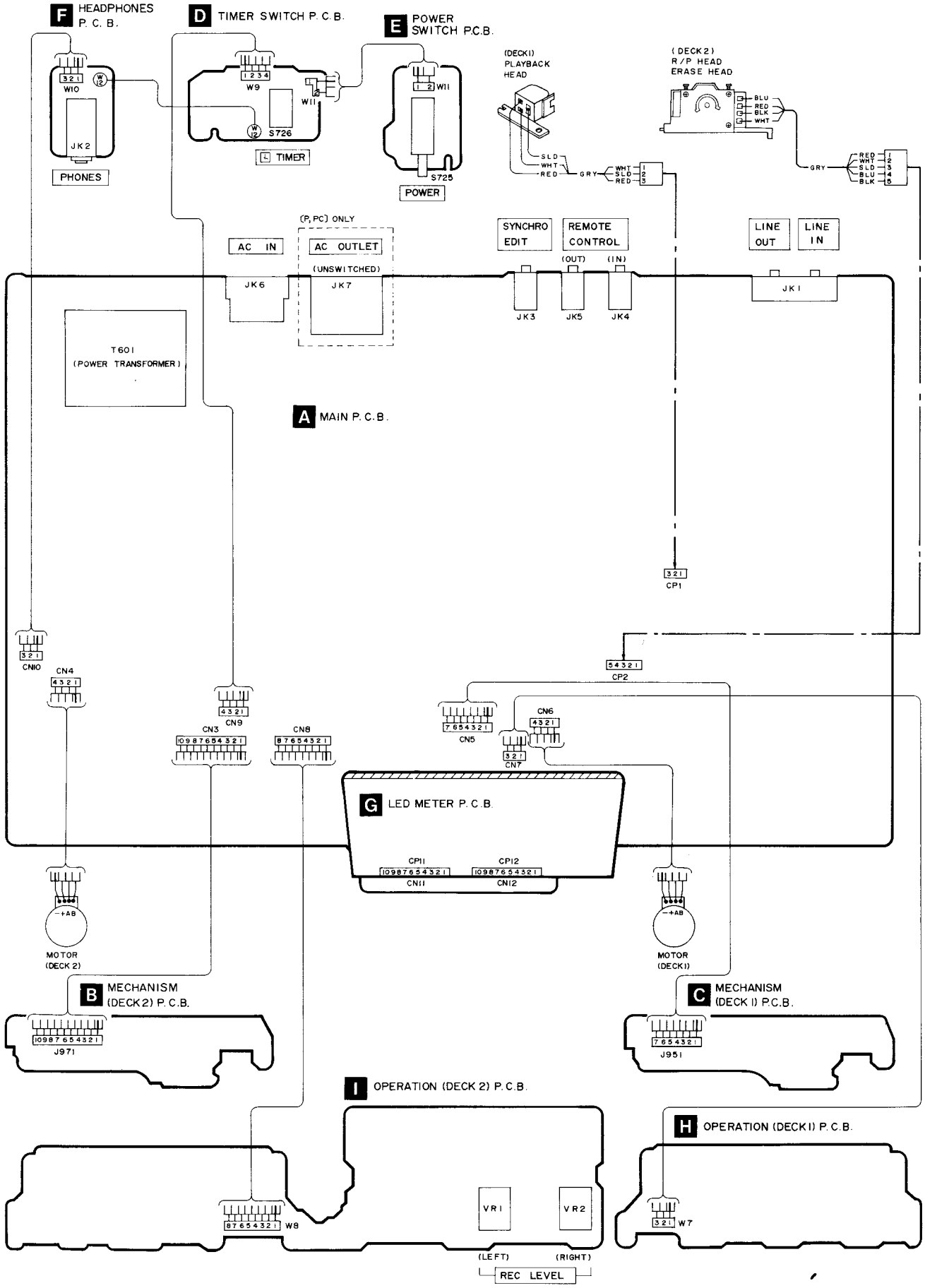
RS-TR255

■ BLOCK DIAGRAM



■ WIRING CONNECTION DIAGRAM



■ RESISTORS & CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique
ECEA	50	M	330	
Type	Voltage (50V)	Characteristics	Value (33μF)	

● P=Pico-farads (pF), U=microfarads (μF).
● Resistance values are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 −20 %
ECQM	: Polyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R1	ERDS2TJ394T	C. RESISTOR 1/4W 390K	
R2	ERDS2TJ394T	C. RESISTOR 1/4W 390K	
R3	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R4	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R5	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R6	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R7	ERDS2TJ225T	C. RESISTOR 1/4W 2.2M	
R8	ERDS2TJ225T	C. RESISTOR 1/4W 2.2M	
R9	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R10	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R11	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R12	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R13	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R14	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R15	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R16	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R19	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R20	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R21	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R22	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R23	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R24	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R25	ERDS2TJ225T	C. RESISTOR 1/4W 2.2M	
R26	ERDS2TJ225T	C. RESISTOR 1/4W 2.2M	
R27	ERDS2TJ820T	C. RESISTOR 1/4W 82	

Ref. No.	Part No.	Part Name & Description	Remarks
R28	ERDS2TJ820T	C. RESISTOR 1/4W 82	
R29	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R30	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R31	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R32	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R33	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R34	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R35	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R36	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R37	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R38	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R43	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R44	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R45	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R46	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R47	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R48	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R49	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R50	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R51	ERDS2TJ330T	C. RESISTOR 1/4W 33	
R52	ERDS2TJ330T	C. RESISTOR 1/4W 33	
R53	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R54	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R55	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R56	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R57	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R58	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R59	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R60	ERDS2TJ332T	C. RESISTOR 1/4W 3. 3K	
R65	ERDS2TJ332T	C. RESISTOR 1/4W 3. 3K	
R66	ERDS2TJ682T	C. RESISTOR 1/4W 6. 8K	
R67	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R69	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R70	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R71	ERDS2TJ432T	C. RESISTOR 1/4W 4. 3K	
R72	ERDS2TJ432T	C. RESISTOR 1/4W 4. 3K	
R75	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R76	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R301	ERDS2TJ1R0T	C. RESISTOR 1/4W 1. 0	
R302	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R303	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R304	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R305	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R306	ERDS2TJ182T	C. RESISTOR 1/4W 1. 8K	
R308	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R401	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R402	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R403	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R404	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R405	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R406	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R407	ERDS2TJ242T	C. RESISTOR 1/4W 2. 4K	
R408	ERDS2TJ242T	C. RESISTOR 1/4W 2. 4K	
R409	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R410	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R411	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R412	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R413	ERDS2TJ562T	C. RESISTOR 1/4W 5. 6K	
R414	ERDS2TJ562T	C. RESISTOR 1/4W 5. 6K	
R415	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R416	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R417	ERDS2TJ332T	C. RESISTOR 1/4W 3. 3K	
R418	ERDS2TJ332T	C. RESISTOR 1/4W 3. 3K	
R419	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R420	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R421	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R422	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R423	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R424	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R425	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R426	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R427	ERDS2TJ222T	C. RESISTOR 1/4W 2. 2K	
R428	ERDS2TJ222T	C. RESISTOR 1/4W 2. 2K	
R429	ERDS2TJ512T	C. RESISTOR 1/4W 5. 1K	
R430	ERDS2TJ512T	C. RESISTOR 1/4W 5. 1K	
R501	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R502	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R503	ERDS2TJ562T	C. RESISTOR 1/4W 5. 6K	
R504	ERDS2TJ270T	C. RESISTOR 1/4W 27	
R505	ERDS2TJ221T	C. RESISTOR 1/4W 220	

Ref. No.	Part No.	Part Name & Description	Remarks
R506	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R507	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R508	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R509	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R510	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R511	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R512	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R513	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R514	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R515	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R516	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R517	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R518	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R519	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R601	ERDS2TJ472T	C. RESISTOR 1/4W 4. 7K	
R602	ERDS2TJ472T	C. RESISTOR 1/4W 4. 7K	
R603	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R604	ERDS2TJ472T	C. RESISTOR 1/4W 4. 7K	
R605	ERDS1FVJ100T	C. RESISTOR 1/2W 10	<P. PC. E. EG> ⚠
R605	ERD2FCVG100T	C, RESISTER 1/4W 10	<EB. GN> ⚠
R606	ERDS1FVJ3R3T	C. RESISTOR 1/2W 3. 3	⚠
R607	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R608	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R609	ERDS2TJ222T	C. RESISTOR 1/4W 2. 2K	
R610	ERDS2TJ222T	C. RESISTOR 1/4W 2. 2K	
R612	ERDS1FVJ100T	C. RESISTOR 1/2W 10	<P. PC. E. EG> ⚠
R612	ERD2FCVG100T	C, RESISTER 1/4W 10	<EB. GN> ⚠
R614	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R615	ERDS2TJ560T	C. RESISTOR 1/4W 56	
R616	ERDS2TJ560T	C. RESISTOR 1/4W 56	
R617	ERQ16NKR15E	F, RESISTER 1/6W 0. 15	<EB. GN> ⚠
R618	ERQ16NKR15E	F, RESISTER 1/6W 0. 15	<EB. GN> ⚠
R619	ERDS2TJ560T	C, RESISTER 1/4W 56	<EB. GN>
R620	ERDS2TJ560T	C, RESISTER 1/4W 56	<EB. GN>
R621	ERDS2TJ560T	C, RESISTER 1/4W 56	<EB. GN>
R624	ERDS2TJ1R0T	C. RESISTOR 1/4W 1. 0	⚠
R701	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R702	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R703	ERDS2TJ122T	C. RESISTOR 1/4W 1. 2K	
R704	ERDS2TJ152T	C. RESISTOR 1/4W 1. 5K	
R705	ERDS2TJ182T	C. RESISTOR 1/4W 1. 8K	
R706	ERDS2TJ222T	C. RESISTOR 1/4W 2. 2K	
R707	ERDS2TJ332T	C. RESISTOR 1/4W 3. 3K	
R708	ERDS2TJ472T	C. RESISTOR 1/4W 4. 7K	
R709	ERDS2TJ682T	C. RESISTOR 1/4W 6. 8K	
R710	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R711	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R712	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R713	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R714	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R715	ERDS2TJ122T	C. RESISTOR 1/4W 1. 2K	
R716	ERDS2TJ152T	C. RESISTOR 1/4W 1. 5K	

Ref. No.	Part No.	Part Name & Description	Remarks
R717	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R718	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R719	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R720	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R721	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R722	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R723	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R901	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R902	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R903	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R904	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R905	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R906	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R907	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R908	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R909	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R910	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R911	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R912	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R913	ERDS2TJ271T	C. RESISTOR 1/4W 270	
R914	ERDS2TJ681T	C. RESISTOR 1/4W 680	
R915	ERDS2TJ683T	C. RESISTOR 1/4W 68K	
R916	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R917	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R918	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R919	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R920	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R921	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R922	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R923	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R924	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R925	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R926	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R927	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R928	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R929	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R930	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R931	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R932	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R933	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R934	ERDS2TJ105T	C. RESISTOR 1/4W 1M	
R935	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R936	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R937	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R938	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R939	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R940	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R941	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R942	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R943	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R944	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R945	ERDS2TJ223T	C. RESISTOR 1/4W 22K	

Ref. No.	Part No.	Part Name & Description	Remarks
R946	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R947	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R948	ERDS2TJ184T	C. RESISTOR 1/4W 180K	
R949	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R950	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R951	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R952	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R953	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R954	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R955	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R956	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R957	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R958	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R959	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R960	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R961	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R962	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R963	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R964	ERDS2TJ184T	C. RESISTOR 1/4W 180K	
R965	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R966	ERDS2TJ223T	C. RESISTOR 1/4W 22K	⚠
R967	ERDS2TJ821T	C. RESISTOR 1/4W 820	
R968	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R969	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R971	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R973	ERDS2TJ561T	C. RESISTOR 1/4W 560	
		CAPACITORS	
C1	ECEA1HK010B	E. CAPACITOR 50V 1U	
C2	ECEA1HK010B	E. CAPACITOR 50V 1U	
C3	ECEA1HK010B	E. CAPACITOR 50V 1U	
C4	ECEA1HK010B	E. CAPACITOR 50V 1U	
C5	ECEA1CK220B	E. CAPACITOR 16V 22U	
C6	ECEA1CK220B	E. CAPACITOR 16V 22U	
C7	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C8	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C9	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C10	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C11	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C12	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C13	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C14	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C15	ECQB1H682JZ3	P. CAPACITOR 50V 6800P	
C16	ECQB1H682JZ3	P. CAPACITOR 50V 6800P	
C17	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C18	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C19	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C20	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C21	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C23	ECEA1HK010B	E. CAPACITOR 50V 1U	
C24	ECEA1HK010B	E. CAPACITOR 50V 1U	

Ref. No.	Part No.	Part Name & Description	Remarks
C25	ECEA1HK010B	E. CAPACITOR 50V 1U	
C26	ECEA1HK010B	E. CAPACITOR 50V 1U	
C27	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C28	ECBT1H561KB5	C. CAPACITOR 50V 560P	
C29	ECKT2H101KB	C. CAPACITOR 500V 100P	
C30	ECKT2H101KB	C. CAPACITOR 500V 100P	
C31	ECCT1H181K	C. CAPACITOR 50V 180P	
C32	ECCT1H181K	C. CAPACITOR 50V 180P	
C33	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C34	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C35	ECQB1H392JZ3	P. CAPACITOR 50V 3900P	
C36	ECQB1H392JZ3	P. CAPACITOR 50V 3900P	
C37	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C38	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C39	ECQB1H822JZ3	P. CAPACITOR 50V 8200P	
C40	ECQB1H822JZ3	P. CAPACITOR 50V 8200P	
C41	ECQB1H273JZ3	P. CAPACITOR 50V 0.027U	
C42	ECQB1H273JZ3	P. CAPACITOR 50V 0.027U	
C45	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C46	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C49	ECEA1CK100B	E. CAPACITOR 16V 10U	
C50	ECEA1CK100B	E. CAPACITOR 16V 10U	
C53	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C54	ECQB1H183JZ3	P. CAPACITOR 50V 0.018U	
C55	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C301	ECQP1153JZ3	P. CAPACITOR 50V 0.015U	
C302	ECEA1CU221B	E. CAPACITOR 16V 220U	
C303	ECKT1H392KB	C. CAPACITOR 50V 3900P	
C304	ECFR1E222KAY	S. CAPACITOR 25V 2200P	
C305	ECFR1E222KAY	S. CAPACITOR 25V 2200P	
C306	ECFR1E682KAY	S. CAPACITOR 25V 6800P	
C307	ECCT1H221K	C. CAPACITOR 50V 220P	
C308	ECCT1H221K	C. CAPACITOR 50V 220P	
C309	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C401	ECCT1H820K	C. CAPACITOR 50V 82P	
C402	ECCT1H820K	C. CAPACITOR 50V 82P	
C403	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C404	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C405	ECKT1H122KB	C. CAPACITOR 50V 1200P	
C406	ECKT1H122KB	C. CAPACITOR 50V 1200P	
C407	ECKT1H152KB	C. CAPACITOR 50V 1500P	
C408	ECKT1H152KB	C. CAPACITOR 50V 1500P	
C409	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C410	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C411	ECEA1CK100B	E. CAPACITOR 16V 10U	
C412	ECEA1CK100B	E. CAPACITOR 16V 10U	
C413	ECQV1H473JZ3	P. CAPACITOR 50V 0.047U	
C414	ECQV1H473JZ3	P. CAPACITOR 50V 0.047U	
C415	ECQV1H224JZ3	P. CAPACITOR 50V 0.22U	
C416	ECQV1H224JZ3	P. CAPACITOR 50V 0.22U	
C417	ECEA1HKR68B	E. CAPACITOR 50V 0.68U	
C418	ECEA1HKR68B	E. CAPACITOR 50V 0.68U	

Ref. No.	Part No.	Part Name & Description	Remarks
C419	ECEA1HKR68B	E. CAPACITOR 50V 0.68U	
C420	ECEA1HKR68B	E. CAPACITOR 50V 0.68U	
C421	ECQV1H224JZ3	P. CAPACITOR 50V 0.22U	
C422	ECQV1H224JZ3	P. CAPACITOR 50V 0.22U	
C423	ECQV1H473JZ3	P. CAPACITOR 50V 0.047U	
C424	ECQV1H473JZ3	P. CAPACITOR 50V 0.047U	
C425	ECEA1CK100B	E. CAPACITOR 16V 10U	
C426	ECEA1CK100B	E. CAPACITOR 16V 10U	
C427	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C428	ECQB1H472JZ3	P. CAPACITOR 50V 4700P	
C429	ECQB1H103JZ3	P. CAPACITOR 50V 0.01U	
C430	ECQB1H103JZ3	P. CAPACITOR 50V 0.01U	
C431	ECEA1CK100B	E. CAPACITOR 16V 10U	
C432	ECEA1CK100B	E. CAPACITOR 16V 10U	
C501	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C502	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C503	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C601	ECKT2H682PEL	C. CAPACITOR 500V 6800P	
C602	ECEA1EU102B	E. CAPACITOR 25V 1000U	⚠
C603	ECEA1EU102B	E. CAPACITOR 25V 1000U	⚠
C604	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C605	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C606	ECEA1AU221B	E. CAPACITOR 10V 220U	
C607	ECEA1AU221B	E. CAPACITOR 10V 220U	
C608	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C610	ECEA0JU102B	E. CAPACITOR 6.3V 1000U	
C611	ECEA0JU102B	E. CAPACITOR 6.3V 1000U	
C612	ECEA1EU222E	E. CAPACITOR 25V 2200U	⚠
C901	ECEA0JU222B	E. CAPACITOR 6.3V 2200U	
C903	ECEA1HK010B	E. CAPACITOR 50V 1U	
C904	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C907	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C909	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC1	AN7384	IC, VOLUME CONTROL	
IC2	AN7351K	IC, REC. /PLAYBACK AMP.	
IC3	M5218L	IC, HEADPHONES AMP.	⚠
IC401	TEA0665	IC, DOLBY B-C NR	
IC402	TEA0665	IC, DOLBY B-C NR	
IC501	AN6888	IC, METER DRIVE	
IC901	M50746-145SP	IC, MICROCOMPUTER	
IC951	DN6851A	IC, HALL	
IC971	DN6851A	IC, HALL	
		TRANSISTORS	
Q1	2SJ164PQRTA	TRANSISTOR	
Q2	2SJ164PQRTA	TRANSISTOR	
Q3	2SJ164PQRTA	TRANSISTOR	
Q4	2SJ164PQRTA	TRANSISTOR	
Q5	2SA1309AQSTA	TRANSISTOR	
Q6	2SA1309AQSTA	TRANSISTOR	
Q7	2SA1309AQSTA	TRANSISTOR	
Q8	2SA1309AQSTA	TRANSISTOR	
Q9	2SC3311AQSTA	TRANSISTOR	
Q10	2SC3311AQSTA	TRANSISTOR	
Q11	2SC3311AQSTA	TRANSISTOR	
Q12	2SC3311AQSTA	TRANSISTOR	
Q13	2SC3311AQSTA	TRANSISTOR	
Q14	2SC3311AQSTA	TRANSISTOR	
Q15	2SD1450RSTTA	TRANSISTOR	
Q16	2SD1450RSTTA	TRANSISTOR	
Q301	2SC3311AQSTA	TRANSISTOR	
Q302	2SC3311AQSTA	TRANSISTOR	
Q303	2SB621ARSTA	TRANSISTOR	
Q304	2SD592QRSTA	TRANSISTOR	
Q401	2SC3311AQSTA	TRANSISTOR	
Q402	2SC3311AQSTA	TRANSISTOR	
Q403	2SC3311AQSTA	TRANSISTOR	
Q404	2SC3311AQSTA	TRANSISTOR	
Q501	DTA114ESTP	TRANSISTOR	
Q502	DTA114ESTP	TRANSISTOR	
Q503	DTA114ESTP	TRANSISTOR	
Q504	DTA114ESTP	TRANSISTOR	
Q505	DTA114ESTP	TRANSISTOR	
Q506	DTA114ESTP	TRANSISTOR	
Q507	DTA114ESTP	TRANSISTOR	
Q508	DTA114ESTP	TRANSISTOR	
Q509	DTA114ESTP	TRANSISTOR	
Q510	DTA114ESTP	TRANSISTOR	
Q511	DTA114ESTP	TRANSISTOR	
Q512	DTA114ESTP	TRANSISTOR	
Q513	DTA114ESTP	TRANSISTOR	
Q514	DTA114ESTP	TRANSISTOR	
Q601	2SA1309AQSTA	TRANSISTOR	⚠
Q603	2SC3311AQSTA	TRANSISTOR	⚠
Q604	2SD2037EFTA	TRANSISTOR	
Q605	2SB1357EFTA	TRANSISTOR	
Q606	2SD592QRSTA	TRANSISTOR	
Q901	2SC3311AQSTA	TRANSISTOR	
Q902	DTA114ESTP	TRANSISTOR	
Q903	DTA114ESTP	TRANSISTOR	
Q904	2SB1030RSTTA	TRANSISTOR	
Q905	2SC3311AQSTA	TRANSISTOR	
Q906	DTC114ESTP	TRANSISTOR	
Q907	2SA1309AQSTA	TRANSISTOR	
Q908	DTA114ESTP	TRANSISTOR	
Q909	DTA114ESTP	TRANSISTOR	
Q910	DTC114ESTP	TRANSISTOR	
Q911	2SA1309AQSTA	TRANSISTOR	
Q912	2SB621ARSTA	TRANSISTOR	⚠
Q913	DTC114ESTP	TRANSISTOR	
Q914	2SB1030RSTTA	TRANSISTOR	⚠
Q915	DTC114ESTP	TRANSISTOR	
Q916	2SB1030RSTTA	TRANSISTOR	⚠
Q917	DTC114ESTP	TRANSISTOR	
Q918	2SA1309AQSTA	TRANSISTOR	
Q919	DTC114ESTP	TRANSISTOR	
Q920	2SB621ARSTA	TRANSISTOR	⚠
Q921	DTC114ESTP	TRANSISTOR	
Q922	DTC114ESTP	TRANSISTOR	
		DIODES	
D1	MA167TA	DIODE	
D2	MA167TA	DIODE	
D501	LN38GCPH	L. E. D	
D502	LN38GCPH	L. E. D	
D503	LN88RCPH	L. E. D	
D504	LN38GCPH	L. E. D	
D505	LN38GCPH	L. E. D	
D506	LN38GCPH	L. E. D	
D507	LN38GCPH	L. E. D	
D508	LN38GCPH	L. E. D	
D509	LN88RCPH	L. E. D	
D510	LN88RCPH	L. E. D	
D511	LN38GCPH	L. E. D	
D512	LN38GCPH	L. E. D	
D513	LN38GCPH	L. E. D	
D514	LN38GCPH	L. E. D	
D515	MA165TA	DIODE	
D516	MA165TA	DIODE	
D517	LN48YCPH	L. E. D	
D518	LN48YCPH	L. E. D	
D519	LN48YCPH	L. E. D	
D520	LN48YCPH	L. E. D	
D521	LN48YCPH	L. E. D	
D522	LN48YCPH	L. E. D	
D523	LN88RCPH	L. E. D	
D524	LN88RCPH	L. E. D	
D525	LN88RCPH	L. E. D	
D526	LN88RCPH	L. E. D	
D527	LN88RCPH	L. E. D	
D528	LN88RCPH	L. E. D	
D601	1SR35200TB	DIODE	⚠
D602	1SR35200TB	DIODE	⚠
D603	1SR35200TB	DIODE	⚠
D604	1SR35200TB	DIODE	⚠
D605	1SR35200TB	DIODE	⚠
D606	1SR35200TB	DIODE	⚠
D607	MA4082MTA	DIODE	
D608	MA4082MTA	DIODE	
D610	MA4062LTA	DIODE	
D612	MA165TA	DIODE	
D901	MA165TA	DIODE	
D902	MA165TA	DIODE	
D903	MA165TA	DIODE	
D904	MA165TA	DIODE	
D905	MA165TA	DIODE	
D906	MA165TA	DIODE	
D907	MA165TA	DIODE	
D908	1SR35200TB	DIODE	⚠
D909	MA165TA	DIODE	
D910	MA165TA	DIODE	
D911	MA165TA	DIODE	
D912	MA165TA	DIODE	
D913	MA165TA	DIODE	
D914	MA4051MTA	DIODE	
D915	MA165TA	DIODE	
D916	MA165TA	DIODE	
D951	1SS133	DIODE	
D971	1SS133	DIODE	
		VARIABLE RESISTORS	
VR1	EVJ02FF01B15	V. R, REC. LEVEL CONTROL	
VR2	EVJ02FF01B15	V. R, REC. LEVEL CONTROL	
VR3	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR4	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR5	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR6	EVNDXAA00B24	V. R, PLAYBACK GAIN ADJ.	
VR7	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR8	EVNDXAA00B14	V. R, OVERALL GAIN ADJ.	
VR301	EVNDXAA00B53	V. R, ERASE CURRENT ADJ.	
VR302	EVNDXAA00B15	V. R, OVERALL FREQ. ADJ.	
VR303	EVNDXAA00B15	V. R, OVERALL FREQ. ADJ.	
VR901	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X2)	
VR902	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
VR903	EVN4LCA00B53	V. R, TAPE SPEED ADJ. (X1)	
		COILS	
L1	SLQX303-1KT	COIL	
L2	SLQX303-1KT	COIL	
L3	SLQX272-1YT	COIL	
L4	SLQX272-1YT	COIL	
L301	SL09B4-K	COIL	
L401	QLM9Z10K	COIL	
L402	QLM9Z10K	COIL	
L403	SLM1B8-K	COIL	
L404	SLM1B8-K	COIL	
L501	ELEXT101KA9	COIL	
L502	ELEXT101KA9	COIL	
		TRANSFORMERS	
T601	SLT5K252K	POWER TRANSFORMER	<E. EB. EG> ⚠
T601	RTP1K4C002-V	POWER TRANSFORMER	<P. PC> ⚠
T601	RTP1K4B004-V	POWER TRANSFORMER	<GN> ⚠
		OSCILLATORS	
X901	EF0GC4004T4	CERAMIC FILTER	
		SWITCHES	
S701	EVQQB005R	SW, STOP (DECK 1)	
S702	EVQQB005R	SW, F. F. (DECK 1)	
S703	EVQQB005R	SW, REW. (DECK 1)	
S704	EVQQB005R	SW, F. PLAYBACK (DECK 1)	
S705	EVQQB005R	SW, REVERSE MODE	
S706	EVQQB005R	SW, REVERSE MODE	
S707	EVQQB005R	SW, REVERSE MODE	
S708	EVQQB005R	SW, AUTO REC MUTE (DECK 2)	
S711	EVQQB005R	SW, STOP (DECK 2)	
S712	EVQQB005R	SW, F. F. (DECK 2)	
S713	EVQQB005R	SW, REW. (DECK 2)	
S714	EVQQB005R	SW, F. PLAYBACK (DECK 2)	
S715	EVQQB005R	SW, R. PLAYBACK (DECK 2)	

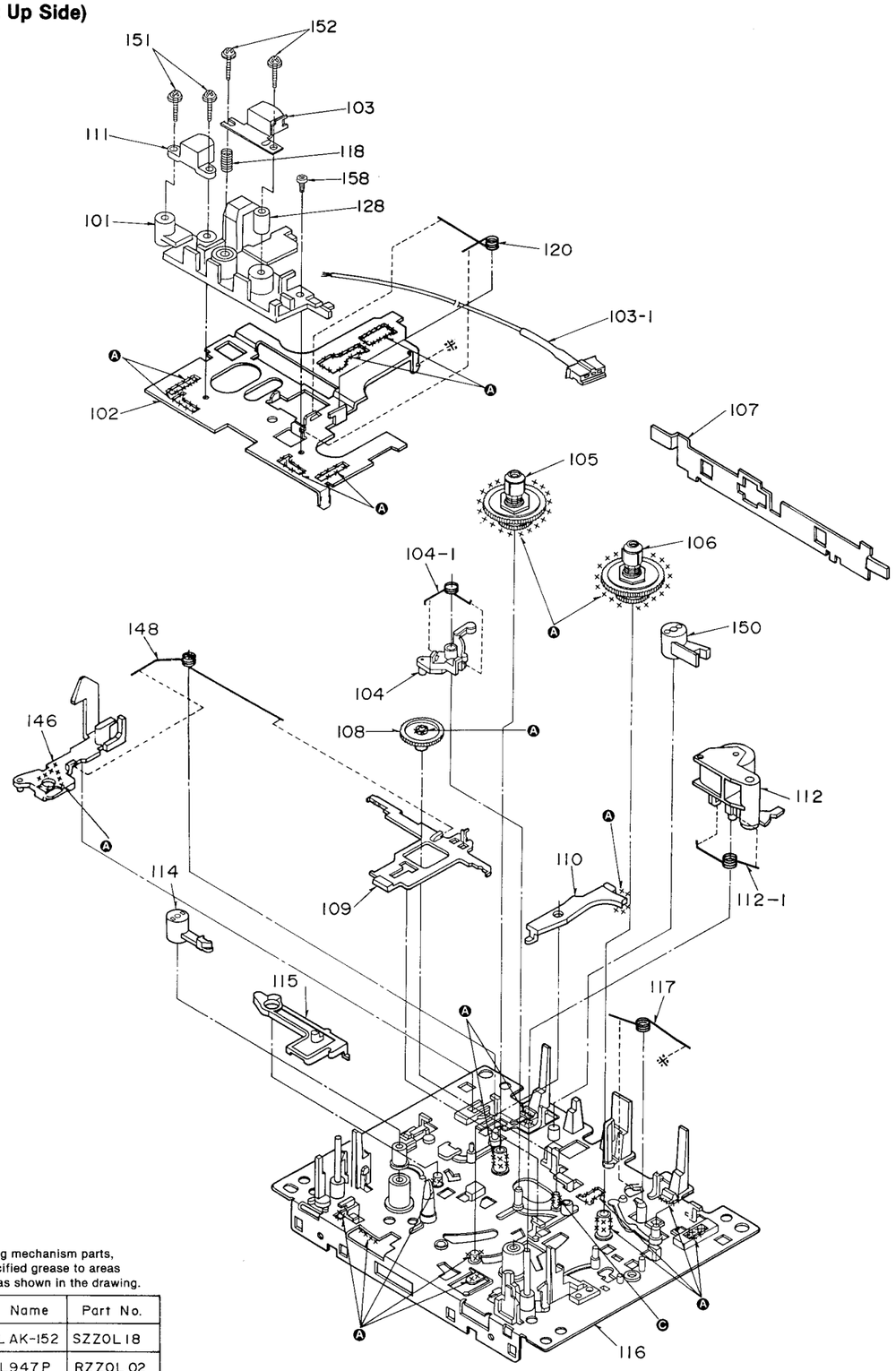
Ref. No.	Part No.	Part Name & Description	Remarks
S716	EVQQB005R	SW, REC. (DECK 2)	
S717	EVQQB005R	SW, PAUSE (DECK 2)	
S718	EVQQB005R	SW, SYNCHRO-START	
S719	EVQQB005R	SW, X2 SPEED	
S720	EVQQB005R	SW, X1 SPEED	
S721	EVQQB005R	SW, DOLBY C NR	
S722	EVQQB005R	SW, DOLBY B NR	
S725	SSH1230	SW, POWER	⚠
S726	SSS180-1	SW, TIMER	
S951	RSH1A89Z	SW, MODE (DECK 1)	
S952	RSH1A90Z	SW, HALF (DECK 1)	
S953	RSH1A90Z	SW, ATS (DECK 1)	
S971	RSH1A89Z	SW, MODE (DECK 2)	
S972	RSH1A90Z	SW, HALF (DECK 2)	
S973	RSH1A90Z	SW, REC INH (R) (DECK 2)	
S974	RSH1A90Z	SW, REC INH (F) (DECK 2)	
S975	RSH1A90Z	SW, ATS (DECK 2)	
S976	RSH1A90Z	SW, ATS (DECK 2)	
		LED BLOCK	
AZ501	LN261478PH	LED BLOCK ASS'Y	(D501-D514, D517-528)
		CONNECTORS	
CN3	SJSD1005	CONNECTOR (10P)	
CN4	SJT30443-V	CONNECTOR (4P)	
CN5	SJSD0705	CONNECTOR (7P)	
CN6	SJT30443-V	CONNECTOR (4P)	
CN7	SJT30343-V	CONNECTOR (3P)	
CN8	SJT30843-V	CONNECTOR (8P)	
CN9	SJT30443-V	CONNECTOR (4P)	
CN10	SJT30343-V	CONNECTOR (3P)	
CN11	RJU003K010M	SOCKET (10P)	
CN12	RJU003K010M	SOCKET (10P)	
CN601	RJS1A1101	SOCKET (1P)	
CN603	RJS1A1101	SOCKET (1P)	
CN606	RJS1A1101	SOCKET (1P)	
CN607	RJS1A1101	SOCKET (1P)	
CN608	RJS1A1101	SOCKET (1P)	
CP1	SJTD313	CONNECTOR (3P)	
CP2	SJTD513	CONNECTOR (5P)	
CP11	RJT003K010	CONNECTOR (10P)	
CP12	RJT003K010	CONNECTOR (10P)	
		GND PARTS	
E1	SNE1004	GND PLATE	
		JACKS	
JK1	SJF3069N	TERMINAL BOARD	

Ref. No.	Part No.	Part Name & Description	Remarks
JK2	SJJ134B	JACK, HEADPHONES	
JK3	RJJ33T01	M3 JACK (BLACK)	
JK4	RJJ33TR01	M3 JACK (RED)	
JK5	RJJ33TR01	M3 JACK (RED)	
JK6	SJSD16	AC INLET	<P. PC. GN> ⚠
JK6	SJS9236	AC INLET	<E. EB. EG> ⚠
JK7	SJS9331B	AC OUTLET	<P. PC> ⚠

RS-TR255

■ MECHANICAL PARTS LOCATION

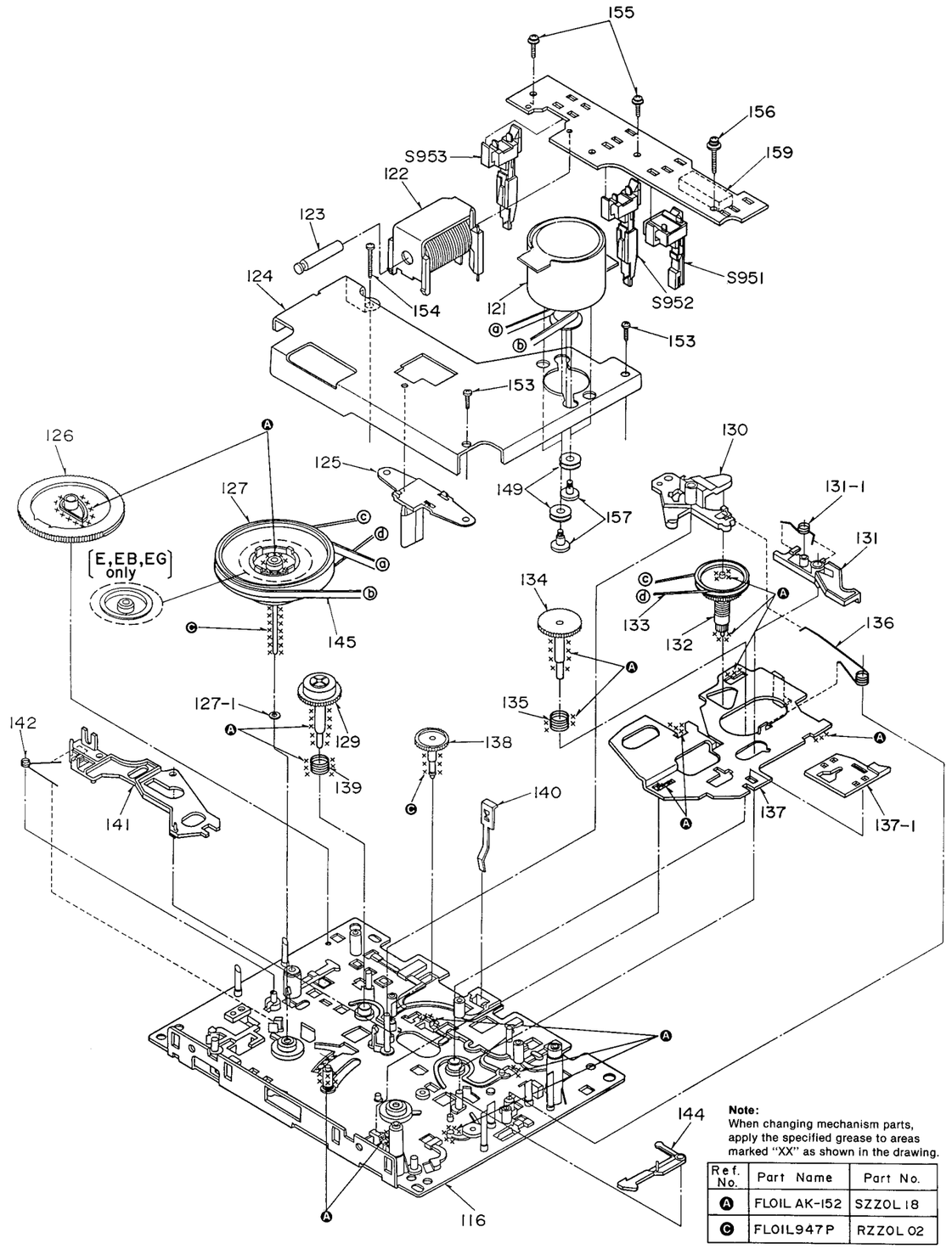
(DECK 1: Up Side)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FLOIL AK-152	SZZOL 18
Ⓒ	FLOIL947P	RZZOL 02

(DECK 1: Down Side)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FLOIL AK-152	SZZOL 18
Ⓒ	FLOIL947P	RZZOL 02

■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST	
DECK1			
101	RMD5013ZB	HEAD ANGLE	
102	RUA793ZA	HEAD BASE	
103	SJH103-1	PLAYBACK HEAD	
103-1	1JS0060ZA	LEAD WIRE BLOCK	
104	1UB0089ZA	ARM	
104-1	RUW148ZA	SPRING	
105	1DM00005ZA	REEL TABLE (R)	
106	1DM00017ZA	REEL TABLE (F)	
107	RUB502ZC	LEVER	
108	RDG5772ZA	GEAR	
109	RUB508ZA	BRAKE ROD	
110	RUB506ZB	ROCK LEVER	
111	RUG82Z	DAMYE HEAD	
112	1UB0087ZA	ARM	
112-1	RUW140ZB	SPRING	
114	RNL1Z	DAMPER ARM	
115	RUB503ZB	MAIN LEVER	
116	RZUAR300	CHASSIS	
117	RUW142ZA	SPRING	
118	QBA51278	SPRING	
120	RUW139ZA	SPRING	
121	RFM134ZA	DC MOTOR	
122	1UE0015ZA	PLUNGER	
123	RUB428Z	MOVING IRON CORE	
124	RUL1030ZC	ANGLE	
125	RMD5017ZA	ANGLE	
126	RDG5927ZC	MAIN GERA	
127	1DW00037ZA	FLYWHEEL (F)	<P. PC. GN>
127	1DW00053ZA	FLYWHEEL (F)	<E. EB. EG>
127-1	RNW139ZA	WASHER	
128	RHM278ZA	SPACER	
129	1DG0006ZA	REEL TABLE GEAR	
130	RUB513ZC	ARM	
131	1UB0091ZA	LEVER	
131-1	RUW146ZA	SPRING	
132	1DR0011ZA	MAIN PULLEY	
133	RDV90ZB	BELT	
134	RDG5769ZA	REEL TABLE GEAR	
135	RUQ10Z	SPRING	
136	RUW145ZA	SPRING	
137	1UB0090ZA	ROD	
137-1	RUB512ZB	ROD	
138	RDG5773ZA	GEAR	
139	RUQ30Z	SPRING	
140	RUS609Z	TAPE PRESSURE SPRING	
141	RUB514ZB	LEVER	
142	RUW147ZA	SPRING	
144	RUB509ZA	LEVER	

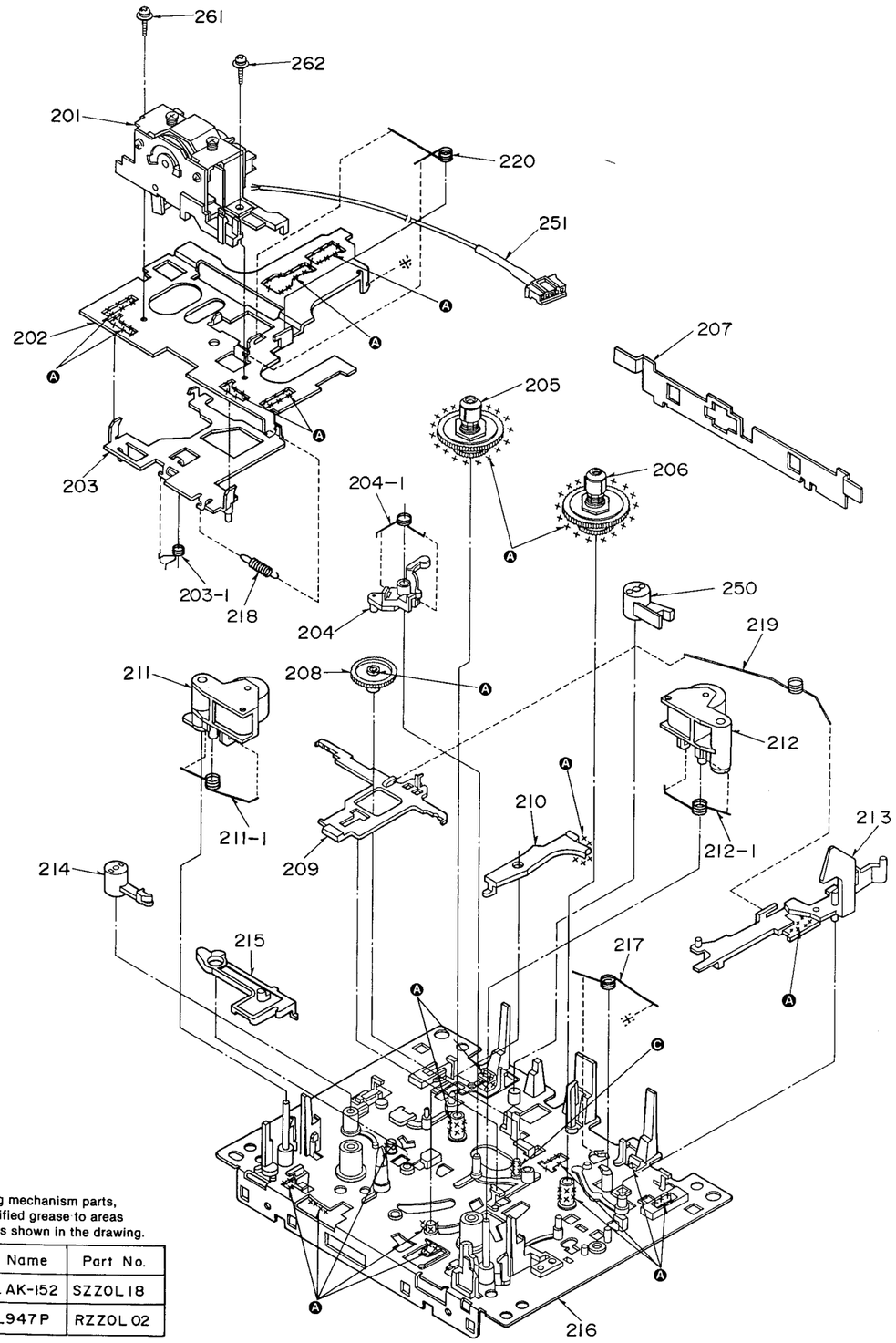
Ref. No.	Part No.	Part Name & Description	Remarks
145	RDV109ZA	CAPSTAN BELT	
146	RUB541Z	EJECT ROD (L)	
148	RUW167ZA	SPRING	
149	RHG3032ZA	RUBBER CUSHION	
150	RNL180ZA	DAMPER ARM	
151	QHQ1361A	SCREW	
152	RHE5201ZA	SCREW	
153	XTN26+7J	SCREW	
154	XTN26+16F	SCREW	
155	XTW2+8S	SCREW	
156	XYC2+JF16	SCREW	
157	XSN26+3	SCREW	
158	XTN2+5F	SCREW	
159	SJT30744-H	CONNECTOR (7P), J951	

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST	
DECK2			
201	RXQ0019	HEAD BLOCK (REC./PLAYBACK)	
202	RUA793Z	HEAD BASE	
203	RZLAR300	ROD	
203-1	RUW143Z	SPRING	
204	1UB0089ZA	ARM	
204-1	RUW148ZA	SPRING	
205	1DM0018ZA	REEL TABLE (R)	
206	1DM0017ZA	REEL TABLE (F)	
207	RUB502Z	LEVER	
208	RDG5772Z	GEAR	
209	RUB508ZA	BRAKE ROD	
210	RUB506Z	LEVER	
211	1UB0088ZA	ARM (R)	
211-1	RUW141Z	SPRING	
212	1UB0087ZA	ARM (F)	
212-1	RUW140Z	RPRING	
213	RUB507Z	EJECT ROD (R)	
214	RNL1Z	DAMPER ARM	
215	RUB503Z	MAIN LEVER	
216	RZUSX980	CHASSIS	
217	RUW142ZA	SPRING	
218	RUD105Z	SPRING	
219	RUW144ZA	SPRING	
220	RUW139ZA	SPRING	
221	RFM134ZA	DC MOTOR	
222	1UE0015ZA	PLUNGER	
223	RUB428Z	MOVING IRON CORE	
224	RUL1030XA	ANGLE	
225	RMD5014Z	ANGLE	
226	RDG5927ZA	GEAR	
227	1DW0053ZA	FLYWHEEL (F)	<P. PC. GN>
227	1DW0053ZB	FLYWHEEL (F)	<E. EB. EG>
227-1	RNW139ZA	WASHER	
228	1DW0054ZA	FLYWHEEL (R)	<P. PC. GN>
228	1DW0054ZB	FLYWHEEL (R)	<E. EB. EG>
228-1	RNW138Z	WASHER	
229	1DG0006ZA	REEL TABLE GEAR	
230	RUB513Z	ARM	
231	1UB0091ZA	LEVER	
231-1	RUW146ZA	SPRING	
232	1DR0011ZA	MAIN PULLEY	
233	RDV90ZB	BELT	
234	RDG5769ZA	REEL TABLE GEAR	
235	RUQ10Z	SPRING	
236	RUW145ZA	SPRING	
237	1UB0090ZA	ROD	
237-1	RUB512Z	ROD	
238	RDG5773ZA	GEAR	

Ref. No.	Part No.	Part Name & Description	Remarks
239	RUQ30Z	SPRING	
240	RUS609Z	TAPE PRESSURE SPRING	
241	RUB514Z	LEVER	
242	RUW147ZA	SPRING	
243	RUB515Z	LEVER	
244	RUB509ZA	LEVER	
245	RDV108ZA	CAPSTAN BELT	
249	RHG3032Z	RUBBER CUSHION	
250	RNL180ZA	DAMPER ARM	
251	REX0059	LEAD WIRE BLOCK	
261	XTW2+6L	SCREW	
262	XTW2+8L	SCREW	
263	XTN26+7J	SCREW	
264	XTN26+16F	SCREW	
265	XTW2+8S	SCREW	
266	XYC2+JF16	SCREW	
267	QHQ1303	SCREW	
268	SJT31044-H	CONNECTOR (10P), J971	
269	XYN26+F6	SCREW	

■ MECHANICAL PARTS LOCATION

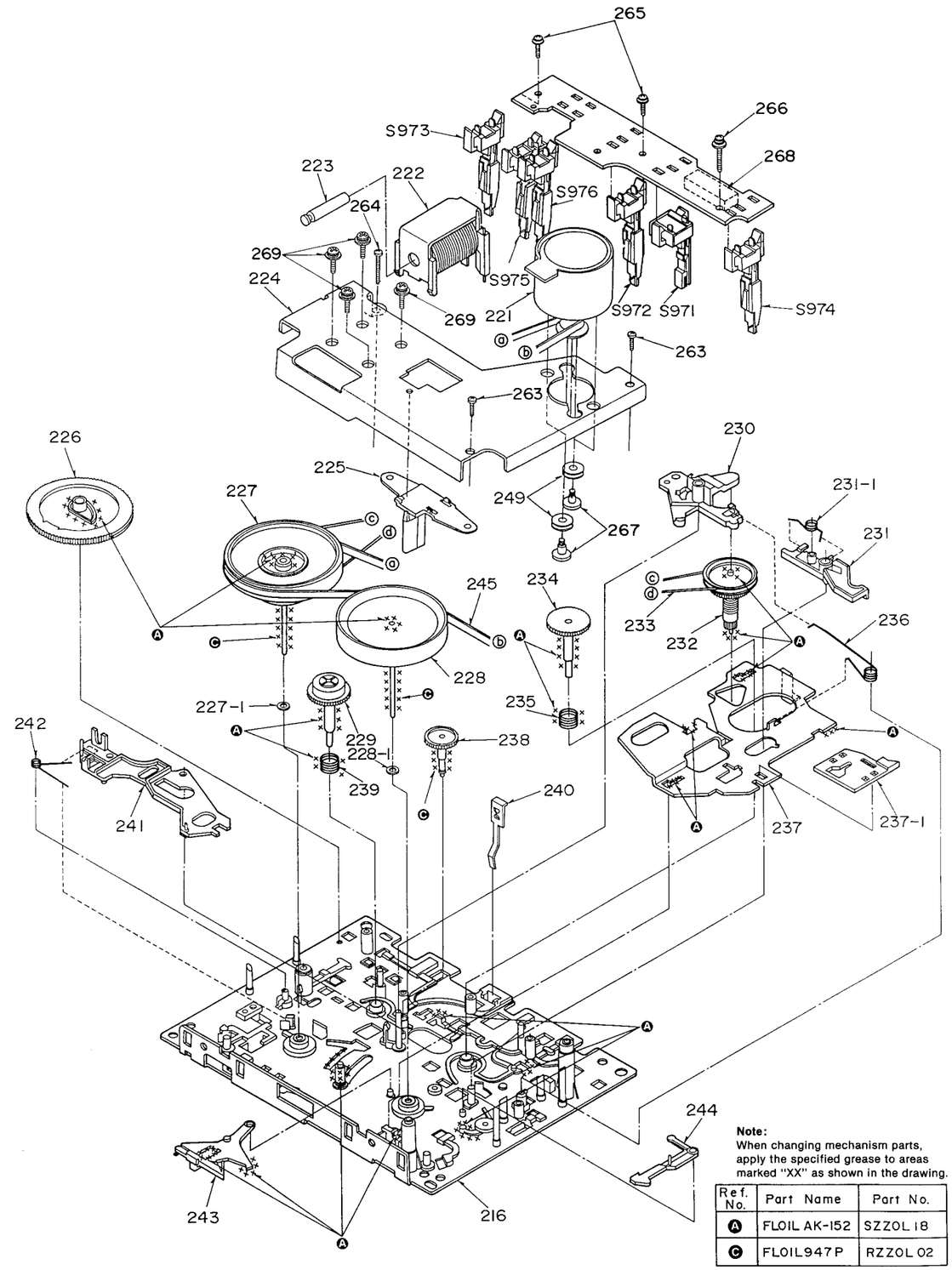
(DECK 2: Up Side)



Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FL0IL AK-152	SZZ0L 18
Ⓒ	FL0IL947P	RZZ0L 02

(DECK 2: Down Side)

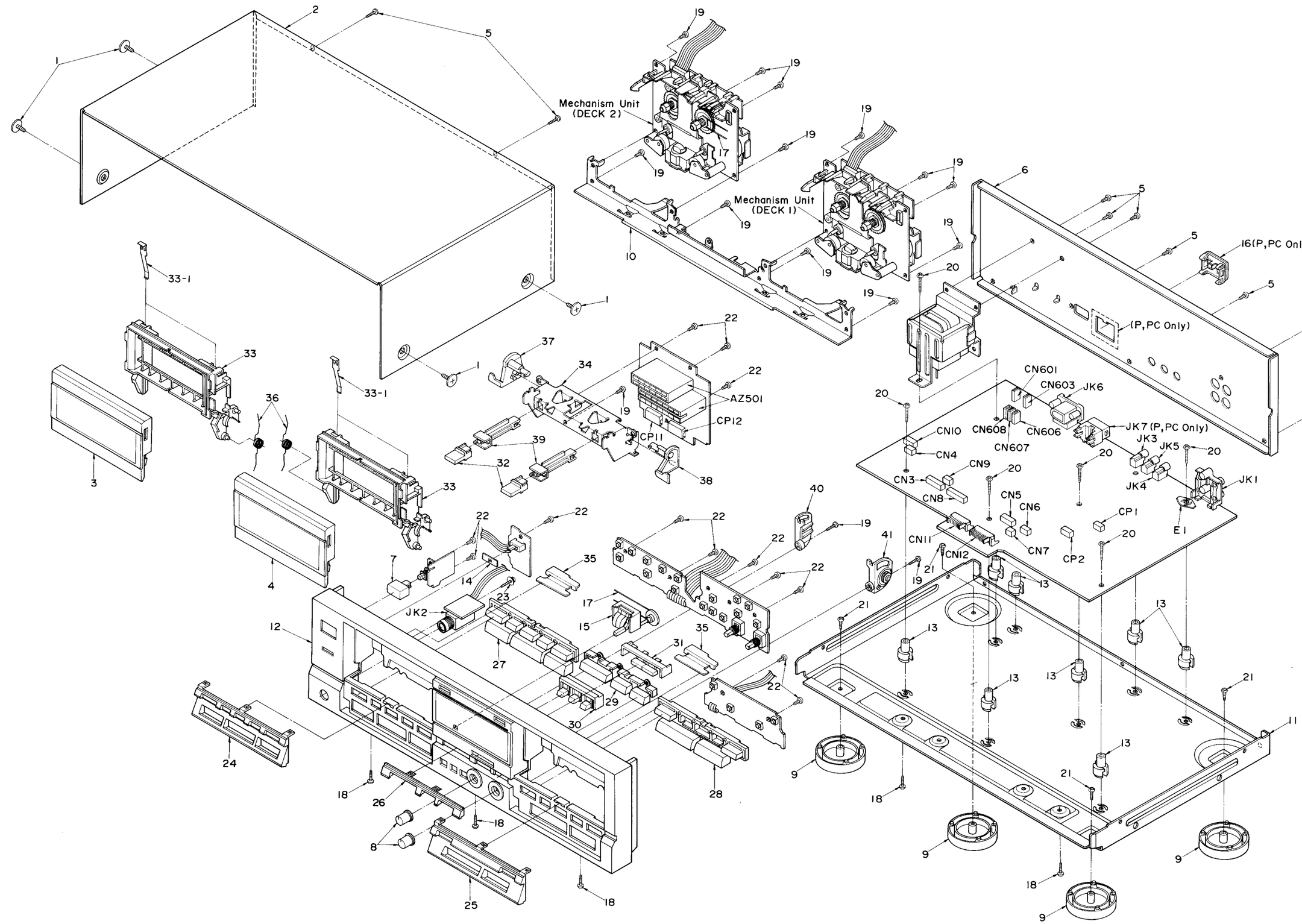


Note:
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
Ⓐ	FL0IL AK-152	SZZ0L 18
Ⓒ	FL0IL947P	RZZ0L 02

RS-TR255

■ CABINET PARTS LOCATION



■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RHD30003	SCREW	
2	RKM0016-K	CABINET	
3	RYF0009-K	CASSETTE LID (DECK 2)	
4	RYF0009A-K	CASSETTE LID (DECK 1)	
5	XTBS3+8JFZ1	SCREW	
6	RGR0008A-A	REAR PANEL	<P. PC>
6	RGR0008B-A	REAR PANEL	<EG>
6	RGR0008B-B	REAR PANEL	<E>
6	RGR0008B-C	REAR PANEL	<EB>
6	RGR0008B-D	REAR PANEL	<GN>
7	RGU0030	BUTTON, POWER	
8	RGW0012	KNOB, REC. LEVEL	
9	RKA0009	FOOT	
10	RMA0050	BRACKET, MECHANISM	
11	RMK0026	BOTTOM BOARD	
12	RGP0033	FRONT PANEL ASS'Y	<E. EB. EG. GN>
12	RGP0034	FRONT PANEL ASS'Y	<P. PC>
13	SHE187-2	HOLDER	
14	SHR6076	ORNAMENT	
15	SJN32	TAPE COUNTER	
16	SJS9331A	AC OUTLET COVER	<P. PC>
17	SMQ20024	BELT, TAPE COUNTER	
18	XTBS3+10JFZ1	SCREW	
19	XTB3+10J	SCREW	
20	XTB3+20J	SCREW	
21	XTB3+6J	SCREW	
22	XTB3+8J	SCREW	
23	XTWS3+10Q	SCREW	
24	RGK0049	ORNAMENT, BUTTON (DECK 2)	
25	RGK0050	ORNAMENT, BUTTON (DECK 1)	
26	RGK0051	ORNAMENT, EDIT BUTTON	
27	RGU0064	BUTTON, OPERATION (DECK 2)	
28	RGU0065	BUTTON, OPERATION (DECK 1)	
29	RGU0066	BUTTON, EDIT	
30	RGU0067	BUTTON, REVERSE	
31	RGU0068	BUTTON, DOLBY	
32	RGU0070	BUTTON, EJECT	
33	RKF0020A	CASSETTE HOLDER	
33-1	QBP2006A	SPRING, TAPE PRESSURE	
34	RMA0051	EJECT ANGLE	
35	RMA0052-1	BRACKET	
36	RME0026	SPRING, CASSETTE HOLDER	
37	RML0041	EJECT LEVER (L)	
38	RML0042	EJECT LEVER (R)	

Ref. No.	Part No.	Part Name & Description	Remarks
39	RMM0014	EJECT ROD	
40	RMR0153	DAMPER GEAR (L) ASS'Y	
41	RMR0154	DAMPER GEAR (R) ASS'Y	
		PACKING MATERIAL	
P1	RPG0072	CARTON BOX	<PC. E. EB. EG. GN>
P1	RPG0083	CARTON BOX	<P>
P2	RPN0087A	PAD, FRONT	
P3	RPN0087B	PAD, BACK	
P4	SPS5185	PAD, ACCESSORIES	
P5	XZB50X65B02	PROTECTION COVER	
		ACCESSORIES	
A1	RQF0054	INSTRUCTION MANUAL	<EG>
A1	RQF0061	INSTRUCTION MANUAL	<E>
A1	RQF0062	INSTRUCTION MANUAL	<EB>
A1	RQF0063	INSTRUCTION MANUAL	<GN>
A1	RQF0064	INSTRUCTION MANUAL	<P>
A1	RQF0065	INSTRUCTION MANUAL	<PC>
A2	SFDAC05E03	POWER CORD	<E. EG> ⚠
A2	SJA173-1	POWER CORD	<GN> ⚠
A2	SJA175	POWER CORD	<PC> ⚠
A2	SJA175-1	POWER CORD	<P> ⚠
A2	SJA193-1	POWER CORD	<EB> ⚠
A3	RFA006	CORD	⚠
A4	SJP2257T	REMOTE CONTROL CORD	<P, PC, GN>

Printed in Japan
H890312000 YY/TN

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Cassette Deck

RS-TR255

DEUTSCH

MESSUNGEN UND EINSTELL METHODEN

Meßinstrumente

- Elektronisches Voltmeter (EVM)
- Oszilloskop
- Digitaler Frequenzmesser
- Audiofrequenz-Oszillator
- Dämpfungswiderstand
- Gleichstrom-Voltmeter
- Widerstand (600Ω)

Tonkopf-Azimuteinstellung (Deck 2/1)

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für die Azimuteinstellung (8kHz, −20dB) ab. Drehen Sie die Azimuteinstellschraube so lange, bis die Abgaben des L-K und R-K den Höchstwert erreichen, und die Lissajosscghe wellenfigur sich, wie abgebildet, 0 Grad nähert.

Anmerkung:

When L-K und R-K nicht auf demselben Punkt ihren Höchstwert erreichen, stellen Sie beide Kanäle auf den jeweiligen Höchstwert und gleichen dann aus.

2. Nehmen Sie denselben Einstellvorgang in der Wiedergabestellung vor.

Prüfung des Pegelunterschiedes bei Vorwärts- und Rückwärtsdrehung

3. Den Abschnitt für Verstärkungseinstellung (315Hz, 0dB) des Prüfbandes (QZZCFM) wiedergeben und sicherstellen, daß der Pegelunterschied bei Vorwärts- und Rückwärtsdrehung kleiner als 1dB ist.
4. Nach der Einstellung Schrauben-Sicherungsmittel an die Azimuth-Einstellschraube geben.

Bandgeschwindigkeits-einstellung (Deck 2/1)

Normale Geschwindigkeit

1. Den Wahlschalter für Editier-Bandgeschwindigkeit auf "**x1**" stellen.
2. Den mittleren Teil des Prüfbandes (QZZCWAT) wiedergeben.
3. Deck 1 = **VR902** und Deck 2=**VR903** so einstellen, daß

Hohe Geschwindigketi

4. Den Wahlschalter für Editier-Bandgeschwindigkeit auf "**x2**" stellen und den Prüfmoduspunkt und GND verbinden.
5. Den mittleren Teil des Prüfbandes (QZZCWAT) wiedergeben.
6. Deck 1 = **VR901** so einstellen, daß der Ausgang dem Sollwert entspricht.

Einstellung der Wiedergabeverstärkungsregelung (Deck 2/1)

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für die Einstellung der Verstärkungsregelung (315Hz, 0dB) ab.
2. Stellen Sie **VR3** (L-K) [[**VR4** (R-K)]] für Deck 1 uon **VR5** (L-K) [[**VR6** (R-K)]] für Deck 2 so ein, daß die Abgabe den Normwert erfüllt.

Wiedergabefrequenzaang (Deck 2/1)

1. Spielen Sie auf dem Testband (QZZCFM) den Teil für den Frequenzgang (315Hz, 12,5kHz~63Hz, −20dB) ab.
2. Achten Sie darauf, daß der Frequenzgang für beide Kanäle (L-K, R-K) in dem in **Abb. 6** gezeigten Bereich liegt.

D

Löschstromeinstellung (Deck 2)

1. Die leere Metallband-Prüfkassette (QZZCRZ) einsetzen und das Gerät auf Aufnahmepause schalten.
2. **VR301** so einstellen, daß der Ausgang zwischen **TP3** und GND dem Sollwert entspricht.

Gesamtfrequenzgang (Deck 2)

1. Legen Sie das normale Leertestband (QZZCRA) ein und stellen das Gerät auf Aufnahme-/Pause-Betrieb.
2. Geben Sie über einen Lautstärkeregler ein Bezugseingabesignal (1kHz, −24dB) ein.
3. Stellen Sie das Signal auf 20dB und justieren die Frequenz von 50Hz~10kHz.
4. Nehmen Sie das Wobbelsignal auf.
5. Geben Sie das aufgenommene Signal wieder und achten darauf, daß dieses sich im Vergleich zur Bazugsfrequenz (1kHz) in dem in **Abb. 8** aufgezeichneten Bereich befindet.
6. Sollte das Signal nicht im Normbereich liegen, justieren Sie **VR303** (L-K) und **VR302** (R-K), so daß der Frequenzpegel mit der Norm übereinstimmt.
7. Wiederholen Sie die Schritte 2~6 und verwender das CrO_2 Band (QZZCRX) und das Metallband (QZZCRZ). Der Frequenzbereich wird auf 12.5kHz (50Hz~12.5kHz) angehoben.
8. Achten Sie darauf, daß sich der Frequenzpegel in dem in **Abb. 9** aufgezeigten Bereich befindet.

Einstellung der Gesamtverstärkungsregelung (Deck 2)

1. Legen Sie das normale Leertestband (QZZCRA) ein und stellen das Gerät auf Aufnahme-/Betrieb.
2. Legen Sie ein Bezugseingabesignal (1kHz, −24dB) an. Stellen Sie das Ausgangssignal auf einen Pegel von 0.4V ein.
3. Nehmen Sie das Eingabesignal auf.
4. Geben Sie das in Schritt 3 oben aufgenommene Signal wieder und achten Sie darauf, daß das Ausgangssignal mit dem Normwert übereinstimmt.
5. Sollte der Wert nicht innerhalb der Norm liegen, justieren Sie **VR7** (L-K) und **VR8** (R-K).
6. Wiederholen Sie die Schritte 2~5 von oben so lange, bis das Ausgangssignal im Normbereich liegt.

FRANÇAIS

METHODES DES MEASURES ET REGLAGES

Appareils de mesurage

- Voltmètre électronique
- Oscilloscope
- Compteur de fréquence numérique
- Oscillateur de fréquence audio
- A.T.T. (Atténuateur)
- Voltmètre à C.C.
- Résistance (600Ω)

Reglage Azimutal de la tete (Platine 2/1)

1. Faire jouer la portion du réglage de l'azimuth (8kHz, −20dB) de la bande d'essai (QZZCFM). Ajuster la vis de la mise au point azimutale jusqu'à ce que les sorties du canal de gauche et du canal de droite soient maximisées et que la forme d'onde de Lissajous, comme il est illustré, approche de 0 degré.

Nota:

Si le canal de gauche et canal de droite ne sont pas maximisés au même point, régler le point où les niveaux de chaque canal sont maximiséset égaux.

2. Effectuer le même r&e 19 mglage sur le mode d'audition.

Vérification de la différence de niveau pour les deux sens de rotation

3. Introduire une bande métal vierge prévue pour les essais (QZZCPZ) et vérifier que la différence de niveau pour lés déux sens de rotation est inférieure à 1dB.
4. Après cela, mettre une goutte de vernis de blocage sur la vis de réglage de l'azimut.

Réglage de la vitesse de défilement Vitesse (Platine 2/1)

normal

1. Placer le sélecteur de vitesse d'édition sur la position "**x1**".
2. Lire la partie centrale de la bande d'essai (QZZCWAT).
3. Régler **VR902** pour la platine 1 et **VR901** pour la platine 2 de manière que la sortie ait la valeur standard.

Grande vitesse

4. Placer le sélecteur de vitesse d'édition sur la position "**x2**" et relier le point de test et la masse (GND).
5. Lire la partie centrale de la band d'essai (QZZCWAT).
6. Régler **VR901** pour la platine 1 de manière que la sortie ait la valeur standard.

Reglage de L'amplification de Lecture (Platine 2/1)

1. Faire jouer la partie réglée de l'amplification (315Hz, 0dB) de la bande d'essai (QZZCFM).
2. Régler la platine 1: **VR3** (canal de gauche) [[**VR4** (canal de droite)]] et la platine 2: **VR5** (canal de gauche) [[**VR6** (canal de droite)]] de telle sorte que la sortie soit en deçà de la valeur standard.

Reponse en Frequence de la Lecture (platine 2/1)

1. Faier jouer la partie de la réponse en fréquence (315Hz, 12.5kHz, −63Hz, −20dB) de la bande d'essai (QZZCFM).
2. S'assurer que la réponse en fréquence soit en deçà de la plage montrée dans la **Fig. 6**, à la fois pour le canal de gauche et le canal de droite.

Réglage du courant d'effacement (Platine 2)

1. Introduire une bande métal vierge prévue pour les essais (QZZCRZ) et régler l'appareil en mode de pause d'enregistrement.
2. Régler **VR301** de maniére que la sortie entre **TP3** et GND ait la valeur standard.

Reponse en Frequence Totale (Platine 2)

1. Introduire la bande d'essai vierge normale (QZZCRA) et régler l'appareil sur le mode d'intermission d'un disque.
2. Appliquer un signal d'entrée de référence (1kHz, −24dB) par l'intermédiaire d'un atténuateur.
3. Diminuer le signal de 20dB et régler la fréquence de 50Hz~10kHz.
4. Enregistrer le balayage de fréquence.
5. Faire jouer le signal enregistré et s'assurer qu'il soit en deçà de la plage montrée à la **Fig. 8** en comparaison à la fréquence de référence (1kHz).
6. S'Il n'est pas en deçá de la plage standard, régler **VR303** (canal de gquche) et **VR302** (canal de droite) de telle sorte que le niveau de fréquence soit en deçá de la plage standard.
7. Répéter les étapes 2~6 ci-dessus en utilisant la band CrO_2 (QZZCRX) et la bande métallisée (QZZCRX) en augmentant la plage de fréquence à 12.5kHz (50Hz~12.5kHz).
8. S'assurer que le niveau soit en deçà de la plage montrée à la **Fig. 9.**

Reglage de L'amplification Totale (Platine 2)

1. Introduire la bande d'essai vierge normale (QZZCRA) et régler l'appareil sur le mode d'intermission d'un disque.
2. Appliquer un signal d'entrée de référence (1kHz, −24dB). Diminuer la sortie de telle sorte que son niveau devienne de 0.4V.
3. Enregistrer ce signal d'entrée.
4. Faire jouer le signal enregistré à l'étape 3 ci-dessus, et s'assurer que la sortie en deçà de la valeur standard.
5. Si elle n'est pas en deçà de la valeur standard, régler **VR7** (canal de gauche) et **VR8** (canal de droite).
6. Répéter les étapes 2~5 ci-dessus jusqu'à ce que la sortie soit en deçà de la valeur standard.

ESPAÑOL

METODOS DE AJUSTE Y MEDIDA

Instrumento de medición

- EVM (Voltimetro electrónico)
- Osciloscopio
- Frecuencimetro digital
- Oscilador AF
- ATT (Atenuador)
- Voltimetro CC
- Resistor (600Ω)

Ajuste Azimutal de Cabeza (Platina 2/1)

1. Reproducir la porción de ajuste azimutal (8kHz, −20dB) de la cinta de prueba (QZZCFM). Variar el tornillo de ajuste azimutal hasta que las salidas del CH-I y CH-D se maximicen y forma de onda de lissajous, como ilustrado, se acerque a grado 0.

Nota:

Si CH-I y CH-D no son maximizados en el mismo punto, ajustar al punto donde los niveles de cada canal sean maximizados e igualados.

2. Efectuar el mismo ajuste en la modalidad de reproducción.

Comprobación de la diferencia de nivel de giro hacia adelante y hacia atrás

3. Reproduzca la parte del adjuste de ganancia (315Hz, 0dB) de la cinta de prueba (QZZCFM) y luego asegúrese de que la diferencia de nivel de giro hacia adelante y hacia atrás sea menor que 1dB.
4. Dcspués del ajustc, aplique pintura de fijación al tornillo de ajuste del azimut.

Ajuste de la Velocidad de la Cinta (Platina 2/1)

Velocidad normal

1. Lleve a "**x1**" el selector de la velocidad de la cinta de edición.
2. Reproduzca la sección central de la cinta de prueba (QZZCWAT).
3. Ajuste la platina 1 = **VR902** y la platina 2 = **VR903** de modo que la salida quede comprendida dentro de los valores estándares.

Alta velocidad

4. Lleve a "**x2**" el selector de la velocidad de la cinta de edición y conecte GND y el punto de la modalidad de prueba.
5. Reproduzca la sección central de la cinta de prueba (QZZCWAT).
6. Ajuste la platina 1 = **VR901** de modo que la salida quede comprendida dentro de los valores estándares.

Ajuste de Ganancia de Reproduccion (Platina 2/1)

1. Reproducir la porción ajustada de ganancia (315Hz, 0dB) de la cinta de prueba (QZZCFM).
2. Ajustar la Platina 1: **VR3** (CH-I) [[**VR4** (CH-D)]] y la Platina 2: **VR5** (CH-I) [[**VR6** (CH-D]] de manera que la salida esté dentro del valor estándar.

Respuesta de Frecuencia de Reproduccion (Platina 2/1)

1. Reproducir la parte de respuesta de frecuencia de reproducción (315Hz, 12.5kHz~63Hz, −20dB) de la cinta de prueba (QZZCFM).
2. Asegurarse de que la respuesta de frecuencia esté dentro de la gama mostrada en la **Fig. 6** para ambos CH-I y CH-D.

Ajuste de la Corriente de Borrado (Platina 2)

1. Inserte la cinta de prueba metálica en blanco (QZZCRZ) y ponga el aparato en la modalidad de pausa de grabación.
2. Regule **VR301** de modo que la salida entre **TP3** y GND esté dento de los valores estándares.

Respuesta de Frecuencia Total (Platina 2)

1. Poner una cinta virgen normal (QZZCRA) y poner la unidad en la modalidad de Pausa de Grabación.
2. Aplicar la señal de entrada de referencia (1 kHz, −24 dB) a través de un atenuador.
3. Atenuar la señal por 20 dB y ajustar la frecuencia de 50 Hz~10 kHz.
4. Grabar el barrido de frecuencia.
5. Reproducir la señal grabada y asegurarse de que esté dentro de la gama mostrada en la **Fig. 8** en comparación con la frecuencia de referencia (1 kHz).
6. Si no está dentro de la gama de frecuencia, ajustar **VR303** (CH-I) y **VR302** (CH-D) de manera que el nivel de frecuencia esté dentro de la gama estándar.
7. Repetir los pasos 2~6 de arriba utilizando la cinta CrO_2 (QZZCRX) y la cinta metálica (QZZCRZ) incrementando la gama de frecuencia a 12.5 kHz (50 Hz~12.5 kHz).
8. Asegurarse de que el nivel est&e 19mdentro de la gama mostrada en la **Fig. 9**.

Ajuste de Ganancia Total (Platina 2)

1. Insertar la cinta de prueba en blance normal (QZZCRA) y poner la unidad en modalidad de pausa de Grabación.
2. Aplicar la señal de entrada de referencia (1 kHz, −24 dB). Atenuar la salida de manera que su nivel se haga 0.4 V.
3. Grabar la señal de entrada.
4. Reproducir la señal grabada en el paso 3 de arriba y asegurarse de que la salide esté dentro del valor estándar.
5. Si no está dentro del valor estándar, ajustar **VR7** (CH-I) y **VR8** (CH-D).
6. Repetir el paso 2~5 de arriba hasta que la salida esté dentro del valor estándar.

Printed in Japan
H890305560 YY/TN

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